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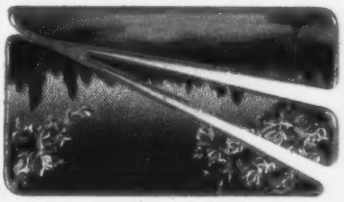

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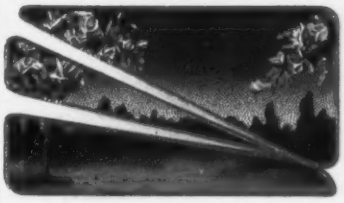

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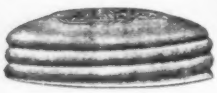

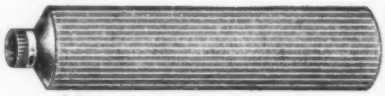

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EDITORIAL NOTICE

WE invite correspondence and special articles upon subjects of interest to all engaged in the manufacture and sale of Perfumes, Soaps, Toilet Articles, Flavoring Extracts, etc. THE AMERICAN PERFUMER and ESSENTIAL OIL REVIEW is the OPEN FORUM for each and all in the Trade.

MANUFACTURING PERFUMERS' ASSOCIATION.—President, Frank B. Marsh, 74 Reade St., New York; Secretary, Edwin Ross, 115 E. 29th St., New York.

FLAVORING EXTRACT MFRS. ASSN.—Pres., Wm. McCormick, Baltimore, Md.; Secretary, Dr. S. H. Baer, St. Louis, Mo.

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THE FLAVORING EXTRACT CONVENTION.

We have attended many conventions, but we have yet to be present at one that was more business-like and at the same time conducted with so much good feeling as the First Annual Meeting of the Flavoring Extract Manufacturers' Association, held in this city on the 8th and 9th of this month.

The amount of good, solid work done, the free interchange of ideas, the whole-hearted co-operation characterized particularly by a total absence of *cliques,* made the meeting noteworthy.

The ancient sage was certainly correct when he said, "Well begun is half done"; for in this instance practically *all* the work has been done to launch the association on a long career of usefulness. The work done by the officers and executive committee since the founding of the association ten months ago, met with such hearty and enthusiastic approval, that with one voice the convention re-elected the entire staff.

Toward the close of the meeting, one of the members in an impromptu address, expressed the following sentiments which seemed to find an echo in every heart. He said:

"I have derived much profit from my attendance at this convention and expect to work out many of the ideas that have been developed. We have hard problems before us, and all of them require careful thought.

We have the problem of what the consumer wants, what the dealer wants, what the food commissioners want, and what *we* want. That makes the position of the extract manufacturer a peculiar one.

Time was when any financially irresponsible individual could take a gallon of alcohol, a pound of vanilla beans, and a gross of bottles and embark in the extract business; and with what result? The consumer got the impression that extracts were "any old thing," and in many cases the consumer was right in his belief.

Let us make a standard for flavoring extract *manufacturers.* Let us make that standard so high that it will be an honor for any man to be a member of the Flavoring Extract Manufacturers' Association. That is the basis on which we will succeed, for that is the basis on which we are now working. The efforts of the men who have taken the lead in this association are along that line.

Ninety per cent. of the cases brought against extract manufacturers have been due to their ignorance, carelessness, or error, and not to intent to defraud the consumer. Now then, how are we going to remedy that? If we put specific questions to most food commissioners, do we get specific answers? No! We get a copy of the State law. There it is, that all who run may read; but unfortunately some of us read incorrectly in some instances.

Let this association employ a chemist, on whose findings we can rely, and an attorney on whose opinions we can depend, and we will have made much progress towards the work that is to be done.

With our policy laid out along these lines, I venture to prophesy that within a few years the extract manufacturers of this country will stand on a much higher plane—on the plane they deserve. Let our members have the association's initials at the bottom of each label, to show that it stands for quality. Quality alone will lead us up, quantity will lead us down. The consumer always wants as much as he can get for his money, and it has been the policy of manufacturers to cater too much to this desire. We are banded with an effort to remedy untoward conditions, and I believe that our association will accomplish what we individually would struggle against ineffectually for years."

The association now numbers some seventy members, and when a due appreciation of its work and usefulness sinks into the minds of the remaining firms in the trade, there should be a rush to enroll on the roster of membership. Past experience may make some hesitate, but now that the new body has risen like a Phœnix from the ashes, there should be none to falter any longer.

UNITED STATES PHARMACOPOEIAL CONVENTION.

The decennial meeting of the United States Pharmacopœial Convention was held in Washington, D. C., May 10-12, 1910, at the New Willard Hotel, and was attended by about 325 delegates, representing some 157 medical, pharmaceutical and chemical societies and associations' governmental departments, etc.

Dr. Harvey W. Wiley was elected president, succeeding Dr. H. C. Wood. Prof. Joseph P. Remington is Chairman of the Committee on Revision.

IMPORTANT AMENDMENT TO TRADE MARK ACT.

An important bill relating to trade marks was passed by the House of Representatives on June 6. The bill provides for amending the trade mark registration act of Feb. 20, 1905 (as amended March 2, 1907), by adding to section 5 of the act the words:

"Provided further: That nothing herein shall prevent the registration of a trade mark otherwise registrable because of its being the name of the applicant or a portion thereof," so that the section as amended will read as follows:

"Section 5. That no mark by which the goods of the owner of the mark may be distinguished from other goods of the same class shall be refused registration as a trade mark on account of the nature of such mark unless such mark

"(a) Consists of or comprises immoral or scandalous matter.

"(b) Consists of or comprises the flag or coat of arms or other insignia of the United States, or any simulation thereof, or of any State or municipality, or of any foreign nation, or of any design or picture that has been or may hereafter be adopted by any fraternal society as its emblem. *Provided,* That trade marks which are identical with a registered or known trade mark owned and in use by another and appropriated to merchandise of the same descriptive properties, or which so nearly resemble a registered or known trade mark owned and in use by another and appropriated to merchandise of the same descriptive properties, as to be likely to cause confusion or mistake in the minds of the public, or to deceive purchasers, shall not be registered. *Provided,* That no mark which consists merely in the name of an individual, firm, corporation, or association not written, printed, impressed, or woven in some particular or distinctive manner or in association with a portrait of the individual, or merely in words or devices which are descriptive of the goods with which they are used, or of the character or quality of such goods, or merely a geographical name or term, shall be registered under the terms of this act: *Provided further,* That no portrait of a living individual may be registered as a trade mark except by the consent of such individual, evidenced by an instrument in writing. *And provided further,* That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States or with Indian tribes which was in actual and exclusive use as a trade mark of the applicant, or his predecessors from whom he derived title, for ten years next preceding Feb. 20, 1905; *Provided further,* That nothing herein shall prevent the registration of a trade mark otherwise registrable because of its being the name of the applicant or a portion thereof."

KEEPING THE TRADE POSTED.

Some of our readers may wonder why we do not publish Notice of Judgment No. 301, published by the Secretary of Agriculture. Those to whom our reason for this omission is plain will remember that we published a complete account of this case in our issue of June, 1909, just a year ago, under the caption, "An Important Flavor De-

cision." We were the only journal to publish a full report of the case at the time. We said then, by way of comment: "This decision will be hailed by some as a notable victory, but for our own part we believe it will do much to nullify the value of the Pure Food and Drugs Act, so far as it concerns vanilla extract . . . unless it shall be reversed."

Evidently the Department of Agriculture shared our opinion that Judge Dyer's interpretation of the law would not stand, for it immediately proceeded to bring a similar action before the same judge. In this case, United States *vs.* Edward Westen Tea and Spice Co. (Notice of Judgment No. 194), the verdict of the jury was the exact opposite of the previous one, and in line with verdicts rendered in other courts.

Read these two Notices of Judgment—Nos. 194 and 301—carefully, and label your goods according to the later dictum.

TREASURY DECISION.

On May 28 Board No. 2 of the United States General Appraisers rendered a decision on the protest of Marx & Rawolle, New York, against the assessment of duty on iron drums for glycerin. The appraisers hold that "the usual and necessary coverings of goods subject to *specific* duties are not liable to duty unless such coverings are directly provided for in the tariff act."

Where there is no specific provision for containers holding goods free of duty, the containers will be admitted free, and on goods subject to an ad valorem rate of duty, the duty on the containers will be at the same rate.

ACTIVITY AMONG THE PERFUMERS.

Mr. Frank B. Marsh, president of the Manufacturing Perfumers' Association, is engaging the tasks that confront him in a vigorous manner, and his example should be instrumental in securing the effective co-operation of the committees he appoints. During the past few years the committees have done excellent work, to be sure, but there is much new work to be inaugurated and plenty of development ahead for the projects already under way.

President Marsh has written all the members asking for suggestions regarding the campaign of education, and if those members who are successful advertisers will draw on their fund of altruism for the benefit of their fellow members, many valuable ideas will be forthcoming.

To the query, "How can the association be of greater practical service to its members" there should be a frank and hearty response; for there must indeed be many members who can give valuable suggestions, but who are restrained by a modest or diffident nature from coming forward with novel suggestions or friendly and constructive criticism.

THE OLIVE IN URUGUAY.

SUCCESSFUL INTRODUCTION OF ORCHARDS—DISPOSITION OF FRUIT.

Consul Frederic W. Goding, of Montevideo, calls attention to a new industry in Uruguay—that of olive growing:

Horticulture has many patrons here who devote their time and attention to the propagation of the various kinds of fruits and vegetables adapted to this soil and climate, and as a result Uruguay takes pride in her luscious fruits, which equal those from any other country, excelling many. But it will surprise many to learn that Uruguay bids fair to become a successful rival to Italy, France and Spain in the production of olives and olive oil, yet such is the case. While her grapes, oranges, cherries and guaybas are well known, her olives are just beginning to attract attention, owing to the brief period in which the trees have yielded fruit. Some 30 years ago the first olive grove was planted, consisting of 1,200 trees, although individual trees had been growing for many years. Each year the number has increased until, at the present time, nearly 100,000 trees are bearing, the fruit of which is either preserved or its oil extracted. It is only within the past 5 years that the industry has reached any degree of importance, but its future is assured, the prospect being all that could be desired, competent judges stating that in another 5 years the number of bearing trees in Uruguay will reach 140,000, capable of producing 2,000,000 pounds of olives and 50,000 gallons of oil.

The varieties of the olive grown here are Mortina, Piñoa, Lecina, Belmonte, Erbequina, Gordal, Sevillana and Manzanilla, all of which are practically free from pests, the only one yet observed being a black smut, which disappears in a brief time leaving no deleterious effects.

CULTIVATION AND MARKETING.

While in European countries the olive is propagated either from twig cuttings from sprouts of old tree trunks set in moist ground or from old woody buds that form mostly near the base of the tree, here the procedure is different, the stones of the fruit being planted. After attaining an age of a year or two they are grafted, the year following being permanently planted in a hole about 2½ feet deep and broad, which is filled with rich earth and manure. Almost any soil will answer; but a much stronger tree is obtained if these conditions are observed, avoiding damp surroundings. The trees are planted in rows about 33 feet apart, and begin to bear when 5 years old; when 15 years old they will annually produce, on an average, from 100 to 150 pounds of fruit. One tree yielded 255 pounds 15 years after being planted. The space between the trees must be cultivated, especially close to the trees, and the ground may also be used for the growing of root crops, such as potatoes, etc.

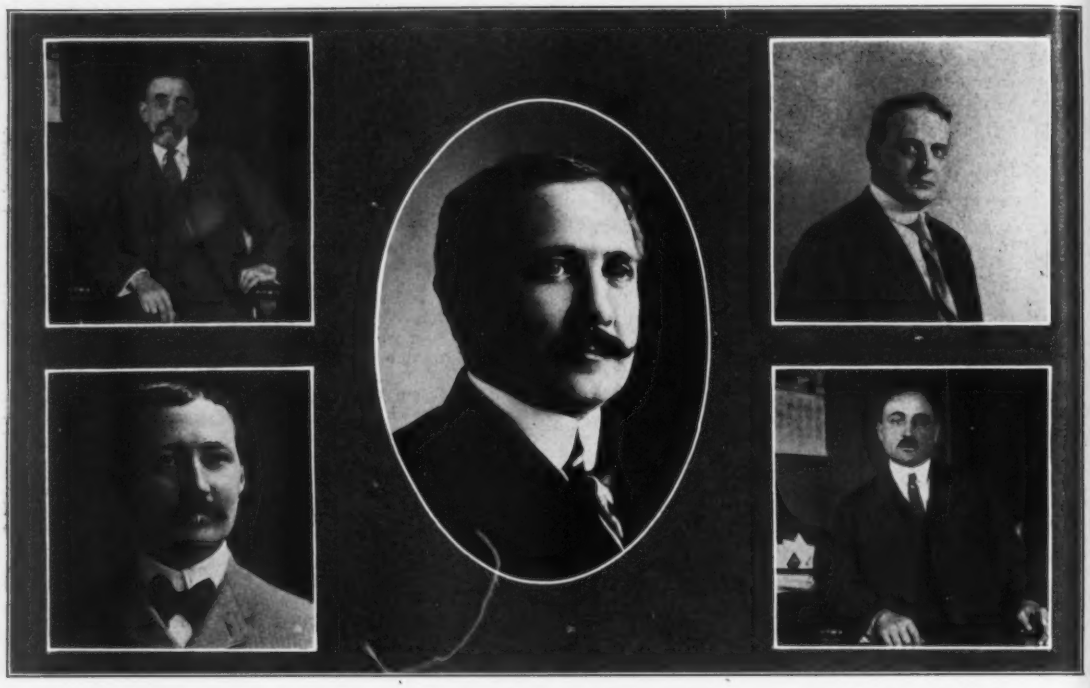
The olives are gathered by hand, women and children being employed for the work, for which they receive 50 cents for each 100 pounds harvested; they are then placed in boxes and taken to the purchaser, who ships them to Buenos Aires, preserves them, or extracts the oil.

CONSERVATION AND PRICES.

The use of olives and the oil as a food is very general here, to prepare which several establishments are in successful operation, equipped with the most modern machinery for extracting the oil and the most approved methods for preserving the fruit. One establishment handled in 1908, 66,138 pounds, and in 1909, 88,184 pounds, which will be more than doubled in the present year.

Attention has been directed to the olive industry of Uruguay, not only because that crop has been a partial failure in Asiatic Turkey and some other countries, but more especially to show that a new source of supply is within the reach of American buyers, and a new and increasing market is presented to manufacturers for the sale of oil-elaborating machinery. The machines now in use were made in Italy and Spain, but intending purchasers will consider propositions from other sources.

OFFICERS OF THE FLAVORING EXTRACT MANUFACTURERS' ASSOCIATION



I. Ullmann, 1st V. P.
R. H. Ferguson, 3d V. P.

W. M. McCormick, President

A. E. Claus, 2d V. P.
Dr. S. H. Baer, Secretary

BANQUET OF THE FLAVORING EXTRACT MANUFACTURERS' ASSOCIATION, HOTEL KNICKERBOCKER, NEW YORK, JUNE 9, 1910.

FIRST ANNUAL MEETING
OF THE
Flavoring Extract Manufacturers' Association
JUNE 8-9, 1910, NEW YORK

The first annual meeting of the Flavoring Extract Manufacturers' Association of the United States was opened at the Drug and Chemical Club, 100 William street, New York, on Wednesday morning, June 8, at 11:15 o'clock, with President McCormick in the chair.

After routine matters had been disposed of Mr. McCormick presented his report, which we give in full:

PRESIDENT'S ADDRESS.

"Members of the Flavoring Extract Association and Friends.—On August 25, 1909, about a dozen gentlemen from as many different States, responding to a call sent them, regarding the need of forming a Flavoring Extract Association, met in Cincinnati, and after spending some time in discussing the matter, and realizing the imperative necessity of such an organization, they formed the Flavoring Extract Manufacturers' Association of the United States.

It was the consensus of opinion that such an association must be formed upon fair, liberal and broad business lines, and they declared that the purposes of this organization should be:

First.—Co-operation, promotion and protection of the business interests of its members.

Second.—To foster and promote good will among its members.

Third.—To assist in the enactment and enforcement of laws which in the their operation shall deal justly with the rights of flavoring extract manufacturers and consumers.

The manufacturers present were a unit in their belief in and desire for pure food laws and that those in the various States should be in accordance with that adopted by the National Government. Many of them had been put to great loss and inconvenience by reason of the lack of uniformity in the State laws and in the rulings and regulations enforced by the State Food Commissioners, who required manufacturers to label goods sold in their States according to their individual views; for instance, goods would be shipped to New York labeled in accordance with the New York law, and they would be sold by the original purchaser in South Dakota or Florida, where under the State law they required an entirely different labeling.

Confusion and trouble resulting, some of the press seemed to think there were no honest manufacturers, and that we were all banded together to defraud and humbug the people, so that whenever a manufacturer was accused of a violation of the law on the strength of some technicality, publicity was given to the case and he was published as a criminal. Most of the technicalities upon which manufacturers have had trouble were trivial and of no moment. In reality the so-called violation of the law usually amounted to no financial value, and therefore, resulted in no gain to the manufacturer. These technicalities were largely due to different interpretations of the way the labels should be printed, size of type, etc.

The lack of conformity with the regulations of those entrusted with the enforcement of the Pure Food laws was about the difference between a strawberry grown in the sun and one grown in the shade. One is a little sweeter than the other, and yet they are both strawberries, and good strawberries at that, if they come from Maryland.

Unfortunately for us, our National Government did not go as far as it should in so serious a matter as this. They did not, as they should have done, establish a bureau to which the manufacturer could take his labels and formulæ, and have them O. K.'d or corrected to suit the requirements of those entrusted with the enforcement of the law; but he was given a copy of the law and the regulations, and left to follow his own interpretation as best he could.

Judges as well as lawyers differ in their interpretations of the law of the land, and is it strange that business men frequently found it impossible to know just what to do?

Time and experience have eliminated most of these troubles.

It has cost manufacturers, and honest manufacturers at that, hundreds of thousands of dollars to comply with the National and State laws. In the matter of labels alone, where they cost less than 30 cents per thousand, it does not pay to patch them, and many houses have thrown away cartloads of them and had new ones printed. Many times, owing to uncertainty as to the requirements of the law, they were forced, instead of printing labels and cartons by the millions, to print them in small quantities, adding greatly to the cost of manufacturing. Lithograph stones, electro-types, cartons, boxes and many things of that kind had to be changed not only once, but sometimes as many as half a dozen times.

The flavoring extract business, even before the Pure Food law was adopted, was run at small profit, owing to excessive price-cutting, and it would have been the part of wisdom for the manufacturer to advance the prices of many of his goods to help to meet this increased burden of expense, but owing to continued cutting and fierce competition, this he was unable to do.

It has been said from the bench that one of the greatest causes of trouble with our Pure Food laws is, that the lawmakers were ignorant of just what the laws meant and what effect they would have when passed.

It is, therefore, the duty of every flavoring extract manufacturer, and indeed of every manufacturer, to see that his representatives in the state legislatures as well as in Congress are fully apprised of just what effect any bill offered will have upon the trade.

Benjamin Franklin said, "When reason preaches, if you do not hear, she will box your ears."

Manufacturers and business men should, therefore, see that at least a fair proportion of the members sent to the national and state legislatures are of this class. This would not only be a great help to manufacturers and

tradesmen, but would save millions to taxpayers by giving us a business man's administration.

Never was there a time when it took men of such capacity to succeed in business; or a time when a manufacturer's or merchant's word stood for more than it does now. This is the age of commercialism; not selfish, greedy, grasping commercialism, but a broad-gauged, liberal and progressive commercialism. The business man of today and of the future must be the man who plans things, who harnesses the powers of nature, who gathers for the use of civilization all things even from the uttermost parts of the earth, who creates the practical, and who handles the great forces of material life not only to his own advantage, but to the advantage of the multitude. The manufacturer must not only work on honest lines with fair dealings towards his trade and towards the consumer, but he must be an originator and a creator if he expects to succeed, and give men and women work; and I hold that the giving of opportunity to earn is the highest type of philanthropy. The manufacturer's money comes slowly and hard, and he is necessarily careful.

During the past year several State legislatures have been in session, and our legislative committee and individual members have been the means of killing many obnoxious bills or having them modified. Just here is need not only for wise heads, but for unselfish men, because few business men have time to give the attention to these matters that is necessary; and yet it is vitally important that we have our data so clear, clean and well defined, that our statements will carry weight and be looked upon with respect.

To show how legislation sometimes runs wild, I would call your attention to a bill offered at the last session of the Maryland legislature which, purporting to protect the consumer when buying poisons, required that every bottle, package, etc., containing poisons, such as bluestone, paregoric, laudanum, etc., must have a bell not less than one-quarter inch in diameter attached to it. Other bills equally as absurd were offered.

Two counties in Maryland now have laws which, if lived up to, would not allow any mixtures containing over three per cent. alcohol to be sold. Needless to say, this would exclude flavoring extracts, witch hazel, etc. These laws are so obviously against public interest that no attempt is made to enforce them.

Notwithstanding our desire and intention to live up fully to all the requirements of the Pure Food laws, manufacturers have been accused without reason, condemned without knowledge, branded as "fakirs" and anathematized from Dan to Beersheba. These troubles usually arise from inexperienced State officials who are either ignorant, overzealous or prejudiced. It is, therefore, necessary for us not to condemn our brother manufacturer until both sides have been shown, because facts show that 99 per cent. of manufacturers in the flavoring extract business are trying to live up to the law and to abide by it, both in letter and in spirit.

I wish to call your attention to certain proposed legislation inimical to our interests. Your president represented your association at a hearing in Washington regarding the proposed weights and measures bill for the District of Columbia, same being H. R. Bill No. 23,010. Mr. Runkel representing the American Specialty Manufacturers Association and Mr. Green representing over 100,000 retailers of the United States, and others, very plainly demonstrated the faults of this bill and the great cost attendant upon complying with it, which cost must eventually be borne by the consumer. If this law went into effect, millions of labels, lithograph stones, electrotypes, cartons, etc., would have to be changed, and it would necessitate the installation, wherever possible, of automatic weighing and filling scales which are sold at enormous prices or on heavy royalties.

Sifting it down to its last analysis, it would stifle or eliminate nearly all small manufacturers. None of them could compete with the large manufacturer, who would be compelled to put in the very latest and most up-to-date improvements regardless of cost; and even then, try as he may to live up to the law, he will still be at the mercy of any prejudiced, ignorant or unscrupulous inspector or official charged with its enforcement.

If this bill should become a law, it will necessitate advancing the prices of many commodities. A 5-cent extract would have to be sold for 10 cents, and a 10-cent package for 15 cents, owing to the higher price of bottles, as well as other attendant expenses. The president of the Glass Blowers' Association has stated that it would cost 100 per cent. more to manufacture bottles of uniform measure than it does as they are at present made.

One does not buy flavoring extracts in small packages by weight or measure, but goes by the brand or the name of the manufacturer; and if the goods do not give satisfaction, he turns to some other brand or manufacturer, just as one does when buying cigars. You do not buy cigars by the size, but for a particular flavor. We, therefore, hope for the consumers' sake as well as for the sake of the manufacturer that this bill will not be reported favorably.

Representative Mann has introduced a bill of similar character which is to apply to interstate commerce, and Bill No. 23,010, above referred to, is but to feel out the attitude of Congress and of the people on this measure.

The National Wholesale Grocers' Association, as well as the National Retail Grocers' Association, have both passed resolutions against the passage of such a bill.

Such organizations as the National Wholesale Grocers' Association, the National Retail Grocers' Association, the National Proprietary Association, the National Wholesale Drug Association, the American Specialty Manufacturers' Association and our own association have all been formed only for the purpose of accomplishing the greatest good, to engender wholesome feelings of respect and confidence among manufacturers, jobbers, retailers and consumers, and to furnish the finest goods the world has ever had at the least possible cost. These organizations are all working in harmony and have done much to smooth out some of the rough places over which the branches of the trade have had to travel. Much is yet necessary to be done, but we all know that what has been accomplished by these organizations has resulted in helping and promoting the welfare of all interests from manufacturer to consumer.

There are other bills now before Congress, some of which are favorable and others unfavorable to our interests. These will be taken up in due course by the legislative committee.

We are not trying to put any of our members in political office, but if we can arouse our members to a realization of the necessity of doing their duty by paying more attention to the local laws, and of keeping our legislative

committee immediately informed of all proposed new legislation regarding the extract business, or food and drug interests in general (as they all bear a very close relation to each other), we will save ourselves and our customers a great deal of trouble.

Profits.—The impression is abroad in the land that the flavoring extract business is all profit. You gentlemen know how far from the truth this is; in fact, I doubt if any manufacturing business shows so small a margin of net profit as does the flavoring extract business. No one can point to a manufacturer of flavoring extracts for culinary purposes in the United States who has made a fortune within the last ten years. On the contrary, in the city of Baltimore alone there have been over fifty failures or withdrawals from business, of flavoring extract manufacturers in the last fifteen years, every one poorer, but wiser for the experience. Some of these failures ran into thousands of dollars in losses to creditors. Anybody can make good under perfect conditions, but it takes real men to make good under conditions which have existed during the last two years.

Salesmen.—We must pay more attention to the quality of the salesmen we employ, and I would caution our members about giving them too much leeway; that is, allowing them to make prices which are out of all proportion to the cost of the goods "just to get in," so to speak. When one salesman goes to cutting, another tries to meet him, and soon the entire business profits not only of his firm, but of his competitor are gone.

Extracts for Foreign Trade.—We are greatly handicapped in selling flavoring extracts in Mexico, South America and other foreign countries because we are compelled to pay a tax of $2.07 per gallon on all alcohol we use in making up goods for export, unless we import the alcohol and make up the goods under the supervision of the United States Government. This requires much red tape and great expense to get the refund. This law favors foreign farmers and manufacturers of alcohol and robs our own people of the trade rightfully belonging to them.

The manufacturers of drugs and perfumes had the tariff law so modified (tariff act passed Aug. 5, 1909) that they can now use domestic alcohol and get a refund for the tax on all export orders without trouble or expense.

Just why flavoring extracts, which are certainly more of a necessity than perfumes, and equally as necessary as many medicines, should have been discriminated against is a puzzling question. They would not have been if our association had been in existence at that time.

We must endeavor to get this law so changed as to help our foreign trade, which can be built up to many thousands of dollars if we are placed on the same footing as European manufacturers. In England, Germany and France manufacturers pay no tax on alcohol, and it can be done here by passing the proper laws.

Extract of lemon today costs nearly $2.90 per gallon to make. If the tax on alcohol was eliminated it would cost eighty-three cents. The consumer would get the benefit and the use of flavoring extracts would largely increase. As the Government authorities are trying at this time to help the consumer, would it not be a good idea to call their attention to this point?

The United States Bankruptcy Laws should in due course be taken up by our association and every effort made to have the laws so modified and amended as to enable creditors to get something after failure without having it all absorbed by the usual expenses.

Uniform Laws.—We must work for uniform laws in all of the States. Several States have recently passed laws which were in line with the national law, but others were not satisfied to profit by the long and splendid work which the United States Government has done in this connection, but have formulated laws that are at variance with it. We must use our best efforts to bring the authorities in these States to better thinking.

Central Clearing House.—It has been thought wise to put the matter of the establishment of a Central Clearing House of advice on matters of interest before you at this time. Such a plan was discussed at the last meeting of the National Wholesale Grocers' Association, and sooner or later it must be an accomplished fact. All of these large organizations must come closer together. Their union and cooperation will purify the atmosphere, eliminate jealousies and animosities that sometimes exist, and make a healthier and better feeling between all manufacturers, jobbers and retailers.

Members.—We have at present seventy-four members in sixteen States, representing $12,000,000 in capital, and our organization is not yet ten months old. Many more will shortly join our ranks. They have been awaiting for developments, and to see how strong we really are and what we intend to do.

We have a goodly sum in our treasury and no liabilities, as the treasurer's report will show.

Our members have been kept posted with all information of interest as soon as obtained, and your president wishes to thank every member for his help in this direction. We trust the circulars on labeling, colors, laws, bottles, etc., have been helpful to our membership, and we hope to hear more often from others of our association on any subject which will be of interest to our members.

I wish to thank the secretary for his efficient help during the year. He has done his work well and without a cent of remuneration. He has always been at my right hand and has written interesting, helpful and able papers. Our association is most fortunate in having had such a man in this important place.

The chairman of the legislative committee has done splendid work and deserves great credit. Many letters and words of caution and information have been sent out from his office, and his work and that of the members of his committee has been felt in a number of States.

I wish to thank the membership committee, and am glad to say that the results of their efforts speak for themselves. While we have reason to feel gratified at the work done thus far, I am convinced that the membership of our organization can be doubled in another year.

The hospitality committee I also wish to thank, especially for the arranging of these meetings and for the banquet which is yet to come. They have given of their time and energy and deserve our warm commendation.

To the other committees and members at large I personally and officially wish to express my sincere appreciation of the consideration you have always shown me. The kind letters I have received from many have been a source of pleasure. You have held up my hands in the dark places and I bespeak for my successor the same hearty support you have given me.

If it be true that a man creates in the image of his thoughts, let us think right."

The reports of the secretary, treasurer, legislative committee and entertainment committee were next presented and referred to the committee on resolutions.

The first technical address was that of Prof. J. P. Volte, of the Department of Domestic Science, Columbia University, New York, who spoke on the part played by flavor in the assimilation of food:

"I would like to give you a brief idea," said Prof. Volte, "of the housekeepers' view of the subject. In the first place, there is no standard of strength in flavoring extract, at least there is nothing at all that most housekeepers can get at. Some one buys a certain extract and on the label it reads that a teaspoonful of the material is to be used, etc., but that is not a standard, because some one else will use the same quantity of a different make and not get the same result. Another fact is that the teaspoon and tablespoon measurement of the housekeeper is the most uncertain thing you can imagine. I went into the question some time ago, and found that there was no uniformity at all. Each manufacturer seems to have his own standard. After a number of tests, I made a standard teasspoon and tablespoon for use in the University. . . . A word or two about synthetic extracts. They have not been satisfactory and I cannot explain here why they have not. You know that everything in nature is compound. You cannot get anything pure, no matter how hard you try. . . . In wintergreen the natural product is much better than the other. I do not know how you make synthetic flavors and would not care to have you explain about it. But there is a peculiar flavor in the natural which we cannot get in the synthetic. I hope some day this natural flavor will be retained."

Prof. Volte's replies to several questions were in substance as follows:

"While flavoring extracts have no nutritive value, they are of considerable service from an esthetic point of view. It would be a mistake, in my opinion, to eliminate artificial colors from flavoring extracts, for the simple reason that we expect certain colors in our foods, and we should lose a great deal of the pleasure in eating them if they came to us with a strange or unusual color.

"Suppose, for instance, you should offer me a green strawberry and a red one. One would fill me with a longing to possess it, while the other would create an antagonistic sensation. That is something that we must overcome."

Then followed a paper on food colors by Mr. E. H. Kohnstamm, of H. Kohnstamm & Co., New York. In discussing Mr. Kohnstamm's paper a member asked these questions:

Q.—Is the use of uncertified colors dangerous?

A.—It would be dangerous in a legal sense. Nobody can guarantee a color harmless, and you will have a job when you try to prove it harmless. If you would use a certified color you would not have to do this.

Q.—Would it not be a good idea for the manufacturers of flavoring extracts to state on their labels simply, "colored with certified colors?"

A.—That would save a great deal of controversy. That question came up a short time ago in this way: A manufacturer in Ohio was putting up a certain beverage, and in the State of Virginia the food commissioner insisted on having the name of the color. The manufacturer was using a blend of three colors, and to state the name of all of them on the label, would make it look like a paint label.

I took up the matter with the food commissioner, and set forth that it would be almost impossible to state the names of all the colors in some cases, and I suggested that he would fulfil all the objects of his State law, and at the same time give the public a better understanding in the matter of coloring, by permitting the use of some such labeling as "United States Certified Colors." He finally accepted the following, "Colors used are Guaranteed United States Certified."

Then followed a paper on Bottles by Mr. H. J. Booth, of the Imperial Glass Co., Charleroi, Pa. (which appears in another part of this issue).

DISCUSSION.

Q.—If I gave you an order and told you that every bottle of one-ounce panels would have to be absolutely correct, how much more than the present price would you be obliged to charge?

A.—From the statistics I gave you of the two normal days' work, if we produced just 33 per cent. of the 2-oz. instead of 100 per cent. you can readily see where we would be in regard to the matter of cost. We would rather accept present prices than to get a higher price for bottles guaranteed to be of a definite capacity.

Following this, Mr. Samuel Iserman, of Van Dyk & Co., New York, read a paper on Vanilla Beans, which appears in this issue.

Second Day Session.

At the opening of this session Mr. C. C. Jenks, of Foote & Jenks, Jackson, Mich., read a paper on Terpeneless Extracts.

Discussion was participated in, particularly by Dr. S. H. Baer and by Dr. Cleon O. Dodge, of the United States Department of Agriculture. Dr. Baer asked, "Have you found any method of analysis in regard to the question as to the exact analysis of terpeneless extracts?"

Dr. Dodge replied, "This is a problem on which we are now working, and have been for some time. Our results will be published in a short time, and will deal particularly with the deterioration of lemon oil and lemon extracts, especially with extracts originally low in citral. Lemon oil coming into this country varies considerably in its citral content, and to be absolutely sure of making a standard terpeneless extract, 60 per cent. alcohol would have to be used."

Following this, Dr. Kleber read a paper entitled "Citrus Oils," which is published in this issue.

Dr. F. D. Dodge, of Dodge & Olcott Co., New York, was then introduced, and he read a paper on Essential Oils, which we publish.

Other papers read at the convention were: Extract and Flavor by Mr. Christian Beilstein, of Dodge & Olcott, New York; Preservatives by Dr. S. H. Baer, of the Blanke-Baer Chemical Co., St. Louis, Mo.

AFTERNOON SESSION.

Mr. F. A. Beeler, of Beeler Mills, Pleasant Hill, Mo., a member of the association, gave a short talk on extracts from a consumer's standpoint. In the discussion that followed, the representatives of the trade papers were

invited to join and their views harmonized with those of the association.

Mr. J. L. Clawson, chairman of the nominating committee, said: "We have given careful consideration to the task imposed upon us. We have considered each office to be filled, and have talked with many members of the association. Our president has begged to be relieved of the arduous duties imposed upon him, but after due deliberation, we recommend that all the officers be renominated. It is the hope of the committee that Mr. McCormick will reconsider his determination and consent to serve this organization another year. It would be unfortunate for us if Mr. McCormick would leave us at this time. We are on the eve of great progress, and we can hardly conceive how it will be possible for us to make the progress we desire and to accomplish our work as rapidly as we wish, without Mr. McCormick's inspiring figure in the executive chair."

Mr. McCormick was visibly moved by this tribute, and by the various remarks that came from the floor, and at last he said, "I hardly know what to say. I want to serve and I do not want to serve. I have no right to serve, as I have neither the strength nor the time to work in the way I think I should. I am proud of this organization and of the men who are working with it. I want to thank everyone again for the work you have done, and to ask you to let me step down (several members then called out "stick by us Mr. McCormick"). Mr. McCormick wavered for a moment and then said with a touch of emotion, "Well, boys, if you will be with me, I will be with you." (Applause.)

The staff is as follows: Officers—President, W. M. McCormick, McCormick & Co., Baltimore, Md.; first vice-president, I. Ullmann, Ullmann, Dreifus & Co., Cincinnati, Ohio; second vice-president, A. E. Claus, Jones Bros., Brooklyn, N. Y.; third vice-president, R. H. Ferguson, The Royal Remedy & Extract Company, Dayton, Ohio; secretary, Samuel H. Baer, Blanke-Baer Chemical Co., St. Louis, Mo.; treasurer, Jacob Frank, The Frank Tea and Spice Co., Cincinnati, Ohio. Executive Committee—C. E. Foote, Foote & Jenks, Jackson, Mich.; T. J. Sherer, Sherer-Gillett Co., Chicago, Ill.; C. F. Sauer, The C. F. Sauer Co., Richmond, Va.

A motion was made and unanimously carried, that the secretary cast one ballot for all the officers.

On motion of Mr. T. J. Sherer the association declared itself in favor of holding the next annual meeting in Chicago, and the attention of the Executive Committee was invited to this decision.

Communications, lauding work of the association were received from National Retail Grocers' Association, National Confectioners' Association, National Wholesale Grocers' Association, U. S. Department of Agriculture, Food Commissioners of State of New York and several members who were unable to attend.

REPORT OF COMMITTEE ON RESOLUTIONS.

The committee reported the following resolutions, which, after discussion, were adopted by a unanimous vote:

Be It Resolved, That the Flavoring Extract Manufacturers' Association of the United States, does hereby fully endorse the National Pure Food Law, and pledges itself to observe same and to assist its members in the carrying out of this law.

Be It Resolved, That this association reiterates its belief that all interests will be best served if all State food laws and rulfings be brought into conformity with the National Pure Food Law.

Be It Resolved, That the association use its influence to have a bill drawn and presented to Congress which shall secure to the flavoring extract manufacturers the same right of drawback on domestic alcohol when exported, as is now secured by manufacturers of medicinal and toilet preparations.

Be It Resolved. That our association endorse the plan of a central organization which shall consist of representatives from kindred associations, as a clearing house for all matters of general interest.

Resolved, That the association is opposed to any further legislation that shall have the effect of increasing the cost to the consumer, as instanced by the proposed weights and measures bill now pending before Congress.

BANQUET.

On Thursday evening, June 9, a banquet was held in the main dining room of the Knickerbocker Hotel, Broadway and 42nd St., the heart of the Great White Way.

Practically all who attended the convention were present at the banquet, together with a number of friends. The room was prettily decorated with palms, and in the center an illumined fountain played.

The diners were arranged at tables of six and on the dais were seated President McCormick, Secretary Baer, Toastmaster Eckert, Mr. Travis Whitney, Secretary Public Service Commission of New York, Hon. Warren E. Lee, of the New York Legislature, and Mr. C. L. Newton of Cincinnati.

The dinner was an excellent one, and as the guests were all in good spirits, particularly as the result of the good spirits that were served, there began to pervade the assemblage a feeling of good fellowship that was uncommon even for a function of this kind.

The toastmaster was a distinct success, and his remarks when introducing each *individual* speaker, were received with great applause. He told several very funny stories, all in very good taste, however, and on the whole was *individually* responsible for the large share of the mirth.

Short addresses were made by Messrs. Whitney, Lee, Baer, Young, Claus, Sherer, Ullman and Kraacke, and in response to numerous calls, President McCormick closed the speech-making with an earnest appeal for co-operation. A glance at the photograph shows most of the guests smiling, and this, in itself, is a pretty fair index of the spirit of the occasion.

Members and Others in Attendance at the Convention.

Acme Extract & Chemical Wks., Hanover, Pa.: E. C. Eckert.

American Perfumer and Essential Oil Review, New York, Louis Spencer Levy, Editor.

American Trading Co., New York: Xavier Dietlin, J. E. Nielsen, A. F. Baird.

E. Armant Co., Binghamton, N. Y.: Fred E. West.

Atlantic Importing Co., New York: E. M. Howell.

Austin, Nichols & Co., New York: C. A. Thayer.

Baker Extract Co., Springfield, Mass.: T. S. Carman.

Beeler Mills, Pleasant Hill, Mo.: F. A. Beeler.

Blanke-Baer Chem. Co., St. Louis, Mo.: Dr. S. H. Baer.

W. J. Bush & Co., Inc., New York: C. Blair Leighton

Antoine Chiris, Grasse, France: C. G. Euler, R. G. Callmeyer.
The Clawson Co., Philadelphia, Pa.: John L. Clawson.
C. L. Cotton Perfume & Extract Co., Earlville, N. Y.: F. C. De Vallant, F. P. Beers.
Dodge & Olcott Co., New York: Dr. F. D. Dodge, Russel R. Sloan, Arthur Olcott Booth.
C. L. Flaccus Glass Co., Pittsburg, Pa.: J. Walter Wilson, F. Chase.
Foote & Jenks, Jackson, Mich.: C. C. Jenks.
Fritzsche Brothers, New York: Julius Koehler, F. H. Leonhardt, Richard F. Fischer.
E. J. Gillies & Co., New York: C. H. Harper.
R. M. Goodheart & Co., New York: R. M. Goodheart.
Great Atlantic & Pacific Tea Co., New York: Wm. N. Toshach.
Hallock-Denton Co., Newark, N. J.: F. S. Muchmore, Geo. J. Schomberg.
Chr. Hansen's Laboratory, Little Falls, N. Y.: J. D. Fredricksen.
Jas. B. Horner, New York: Jos. Mathias, A. F. Bertine.
Imperial Glass Co., Charleroi, Pa.: H. J. Booth.
Jennings Mfg. Co., Grand Rapids, Mich.: Walter W. Fox.
Jones Bros., Brooklyn, N. Y.: Wm. J. Burke, A. E. Claus.
J. N. Limbert & Co., Philadelphia, Pa.: J. N. Limbert.
G. H. Lowell & Co., New York: G. H. Lowell.
George Lueders & Co., New York: E. V. Killeen, H. W. Heister.
McCormick & Co., Baltimore, Md.: Wm. McCormick.
J. Manheimer, New York: Jacob Manheimer, I. Manheimer, Henry Cohen.
Th. Mühlethaler Co., Nyon, Switzerland: Donald Wilson.
Newton Tea & Spice Co., Cincinnati, Ohio: C. L. Newton.
The C. F. Sauer Co., Richmond, Va.: C. F. Sauer.
Seeman Bros., New York: Louis B. Parsons.
Sherer-Gillett Co., Chicago, Ills.: T. J. Sherer.
Styron, Beggs & Co., Newark, Ohio: Mr. Styron and Frank L. Beggs.
Tea & Coffee Trade Journal, New York: W. H Ukers, Editor.
Thurston & Braidich, New York: J. Ed. Young, Jr., Chas. R. Rosevear, Wallace Mawbey.
Ullman, Dreifus & Co., Cincinnati, Ohio: I. Ullman.
Ungerer & Co., New York: F. H. Ungerer, C. A. Russell.
The Union Pacific Tea Co., New York: W. A. Ellis.
Van Dyk & Co., New York: L. A. Van Dyk, S. Iserman.
Vionana Co., Dayton, Ohio: Dr. W. S. Beekman.
F. L. Washbourne & Co., Inc., New York: Fredk. L. Washbourne.
Wood & Selick, New York: P. R. Corell, Charles Spangenberg.
Thos. M. Curtius, New York.
F. J. H. Kraacke, Naval Officer, New York.
A. H. Schultze, Ph.D., New York.

Development of Modern Methods in Perfumery During the Last Twenty-Five Years

By RICHARD F. FISCHER, of Fritzsche Brothers, New York

(*Concluded from the May issue.*)

With the limited time at my disposal, I cannot go into further details relating to the long list of other true synthetics which have enriched the number of odoriferous ingredients at the disposal of the perfumer, and I will therefore only mention a select number of more important products with short remarks as to their usefulness in perfumery:

There are in the group of **Aromatic Alcohols** and their **Ethers and Esters:**

Benzyl acetate, one of the important bases of the jasmine odor.

Benzyl alcohol, a constituent of jasmine oil.

Benzyl benzoate, a solvent for artificial musk.

Cinnamic alcohol, of great importance for hyacinth combinations.

Ethyl and methyl ester of cinnamic acid, useful in various perfume compounds, on account of their fine aromatic odor.

Methyl benzoate or niobe oil, a valuable ingredient for soap compounds.

Methylester of anthranilic acid, a characteristic constituent for the production of orange blossom odors.

Methylester of Methylanthranilic acid, the aromatic constituent to which mandarin oil owes its peculiar odor that renders it so intensely more aromatic than oil of orange.

Nerolin or yara-yara and bromelia, the methyl respectively ethyl ethers of beta-naphtol, cheap orange flower substitutes, particularly for soap compounds.

Phenylethylacetate, of great importance for hyacinth compounds.

Phenylethylalcohol, an important constituent of the rose odor.

In the group of **Aldehydes** we find:

Anisic aldehyde or aubépine, the well known Hawthorne odor.

Benzaldehyde and cinnamic aldehyde, both very valuable as bases for soap compounds.

Phenylacetaldehyde, one of the first bases used in the manufacture of hyacinth compounds.

The *higher aldehydes*, as *octylaldehyde, nonylaldehyde, decylaldehyde*, which have been found to be present in quite a number of flower oils, such as cassie flower and rose oils.

The **Phenol Group** furnishes:

Eugenol and *iso-eugunol*, which in turn helped to create the carnation pink odors.

Safrol and *iso-safrol*, the former a valuable base for soap compounds, the latter of great importance as initial product for the manufacture of heliotropin.

In closing our review of this group of synthetic products, we desire to mention two purely chemical preparations, which have more than anything else convinced the perfumer of modern times of the usefulness of synthetic products. These are *ionone* and *artificial musk*.

In 1893 Tieman took out his patent on his methyl ketone of the formula $C_{13}H_{20}O$, which he termed ionone. This product seemed to be destined to revolutionize the manufacture of violet extracts, and has besides proved to be the greatest commercial success ever obtained by any aromatic synthetic preparation. This product is too well known to all of you, as well as its two integrant isomers, alpha-and beta-ionone, to require any detailed description. Suffice it to mention that since the termination of the basic patent most all of the important manufacturers have been putting upon the market identical products under various names, which are of more or less importance and intrinsic value in accordance with the facilities that are at the command of the respective manufacturers.

It may be in place here to say a word in regard to the one isomer of ionone that has been found in nature, *irone*, the active odoriferous principle of orris root. Though the odor of ionone has quite some similarity with this natural product, it is lacking the one all important quality of its cousin in nature, its absolute stability of odor and the peculiar property, which the perfumer designates as possessing "body." This useful product has been introduced into commerce in the form of oil orris tenfold, or concentrated.

Artificial musk or musk Baur, made its appearance in 1888, and has, like ionone, stirred up time-honored methods in perfumery to such an extent, that at one time, no price seemed to be too high for this product, which is now obtainable at prices for the pound at which only a few grains could be bought during the time of its grandeur. Like in all similar cases, this product is now offered in

very much varying qualities by a host of manufacturers, and a number of more or less valuable derivatives of it have also been placed at the disposal of the perfumer, among which ketone musk and the derivatives of butylmetacresylol, which are offered under various fancy names, may be mentioned.

I have in the preceding chapter not mentioned the many derivatives and countless isomeric products of the various basic chemical constituents, neither the long list of synthetic aromatic preparations, which are only known by their scientific chemical names, that sometimes spell with half a dozen pre-and affixes, as this would lead too far. But even this short sketch will give you an idea of the enormous amount of synthetic work that has been accomplished in the field of aromatic chemistry during the period of the last twenty-five years.

This work, however, has only been the stepping stone for the by far more important work, from the standpoint of the perfumer, of creating the complex bodies, which nature has produced in the various odoriferous oils which constitute the characteristic odor of the different fragrant flowers.

Here again, I am proud to state, Germany has been in the lead.

It was after years of the most exacting scientific researches of the natural product, that the house of Schimmel & Co. could in the early months of 1895 announce with a well deserved satisfaction the fact that they had succeeded in completing an absolute synthesis of the all important product, *oil of neroli.*

This was the first of all the many synthetic flower oils which now follow in pretty rapid succession from the various synthetic laboratories of those houses, which were engaged in the manufacture of synthetic aromatic chemicals.

This oil of neroli, of Schimmel & Co.'s manufacture, has naturally had followers from all the many houses in this particular branch of manufacture, but we are pleased to state that the unanimous consent of the international Perfumery Trade still seems to consider Schimmel & Co.'s product as the peer of them all.

In the year 1896 follows the *synthetic oil of ylang ylang,* also emanating from the laboratories of Schimmel & Co., and first and originally patented by this firm. After the detection of iso-eugenol in the natural oil in 1901, the synthetic oils have been so perfected that they now favorably compare with the best natural products on the market.

The third oil, the synthesis of which was perfected, was *oil of rose,* which was first introduced by Schimmel & Co. in October 1900 and subsequently patented by this firm. There have since that time been a number of new constituents of Rose Oil determined by continued analytical researches, which, though present in only very minute quantities in the natural oil, have also been utilized for the benefit of the synthetic product, so that the latter, as it is offered today, represents a complete chain of all the natural constituents as contained in a normal Otto of Rose obtained by steam distillation.

Partly simultaneously with the work conducted in this direction in the laboratories of Schimmel & Co., partly following this work, other well known firms engaged in the manufacture of synthetic flower oils.

Aside from Germany, we find France and Switzerland to take a prominent part in the exploitation of these new problems.

Among others engaged in this work:

In Germany—Haarmann & Reimer; Heine & Co.; Actien Gesellschaft für Anilin Fabrikation and several others.

In France—De Laire & Cie; Société Chimique des Usines du Rhone; Justin Dupont.

In Switzerland—Chuit, Naef & Cie; L. Givaudan; Th. Mühlethaler.

There are a number of other firms that have also done valuable and important work in the field of aromatic chemical synthesis, and I wish to state that I have given the above names with particular reference to their importance for *this* country.

For reasons that can easily be explained, the large French houses, especially engaged in the manufacture of natural flower products, such as flower pomades, concrete flower oils, etc., have only recently entered the field of competition in this particular branch of manufacture. But the simple fact that important French houses have seen fit to put synthetic products upon the market, aside from their natural productions, speaks volumes for the overwhelming importance of this comparatively new branch of applied chemistry.

Among the large number of *synthetic flower oils,* which have been put upon the market by the various firms, we mention as a selection of the most important ones: ***Cassie flower oils, heliotrope flower oils, hyacinth flower oils, jasmine flower oils, lilac oils, lily of the valley oils, narcissus oils, neroli oils, pink blossom oils, rose oils, syringa oils, tuberose oils, violet oils, ylang ylang oils.***

Many of these exist in various shades and tuning, so to say, of their specific odoriferous character, and are offered under various protected names. There are besides reproductions of most all the less important flower odors, as well as those of certain species of some flowers, as, for instance, the various types of roses.

It remains to be stated that in spite of the great achievements in aromatic chemistry, some of the natural flower oils have not yet entirely yielded to analytical investigation, or we have not succeeded as yet in reproducing synthetically some of their natural constituents, so that we have to rely upon certain *natural derivatives* or *isolation products,* directly obtained from the flowers, for their successful reproduction in the form of the so-called synthetic flower oils.

These oils, which would be more properly called *semi-synthetic* products, have as their base *natural constituents* obtained from the flower, which are reinforced by such *synthetics* as have been found to be present in the natural product.

Typical of this class of flower oils is oil of jasmine, and we therefore find all of the better grade products of jasmine to contain a certain amount of *natural* constituents, as products exclusively made from synthetic components do not produce a jasmine odor of absolute truthfulness to nature.

There are in fact more such products in the market that are partly natural, partly synthetic, than is generally known to the perfumer. It is in reality more a matter of selection of the various houses in which way they designate their different lines of flower preparations, whether as *natural* or *synthetic flower oils,* as it is in many instances very difficult to draw the line of demarkation between these products.

We might just as well call a good many of these oils "synthetically reinforced natural oils" or "naturally finished synthetic oils." This does, however, not apply to the strictly synthetic flower oils which we have mentioned on a former page of this paper.

The principle which the various houses have followed in this respect is mostly dictated either by a desire to lay more stress on the scientific work connected with the production of these oils, or a desire to adapt themselves more to the certain prejudice of the old school perfumers, who did not think very favorably of the introduction of synthetic products in place of their natural patterns.

How much prejudice there may, however, have been in the minds of some perfumers against synthetic preparations, which, by the way, may have been well founded, on account of certain deficiencies that these products showed in their early days of production, this prejudice is bound to vanish before such perfect products as have been, particularly of late, placed upon the market. How would such exquisite creations have been possible as the modern American and French lily of the valley, and rose extracts, without the new type of synthetic lily of the valley or May blossom oils, and the beautiful products of various red rose effects offered to the perfumer?

I have no doubt but that the day will come when synthetic chemistry in this particular field will be so far developed that the natural products will gradually drop into forgetfulness, and when the perfumer will be independent of the many encumbrances, which now in the way of deficient crops prove to be quite an impediment to a healthy development of his business. He will besides then command a complete armamentary of always uniform products of as fine a character as only nature could produce in their best types of full developed and highly cultivated fragrant flowers.

MIMOSA

By G. L. MAZUYER

Mimosa flowers, of which the scented varieties are very numerous in the Riviera, have a very agreeable odor. It is hardly possible to describe this distinct aroma (no more than any other)—the vocabulary does not admit of it; the only method of comparison would be based on the impressions which one experiences; we may distinguish in the odor of mimosa the expressions of delicacy, of subtilty, of sweetness masking just a trace of acridity.

There are a great many people who will tell you that mimosa smells of bitter almonds, and there are many perfumers who sell, under the name of Mimosa, a perfume the crudeness and strength of which is disconcerting. Possibly you have been ready with the remark yourself; this is in both cases an aberration, because mimosa does not smell of bitter almonds, any more than bitter almonds smells of mimosa and because this odor is of so delicate a character that there is no reason for denaturing it to the extent of making it an intense perfume. But, if laymen are to be excused for not knowing how to express their impressions, the perfumers should not be, when they contradict nature, whereas their true mission is to come as closely to it as possible. We will add, moreover, that it is not difficult to reproduce the perfume of mimosa, provided we have a true nose and some skill in the laboratory.

In regard to the extraction of the perfume of the flower, it can be done, it appears, by pomades of enfleurage of mimosa. We have tried it, however, by enfleurage on hot pomade and by enfleurage on cold oil and we have obtained results that were absolutely negative. On the other hand, the flower lends itself to treatment with volatile solvents, and we find in these products that we obtain excellent bases.

In spite of this, in a majority of cases, the extract of mimosa is reproduced by composition. For a long time this extract has been obtained from proper proportions of compound extract of violet and extract of heliotrope. We have prepared it thus ourselves and believe that it is impossible not to obtain in this manner something agreeable; but the main object being "to be true," we should not wish to remain content with this process, which, after all, only reproduces approximately the odor of mimosa.

There exist under this title a large number of synthetics and of so-called synthetics. The genuine synthetics of mimosa are, as a rule, of very strong yield, and it is necessary to know the dose; we cannot very well make use of it until after we have made some solutions. The others, the "so-called synthetics," are, anyhow, of a composition more or less empirical and of a more or less uniform yield. We shall make a more thorough study of the utilization of the first; as regards the second, a conscientious perfumer who will leave them alone will avoid much disappointment.

Vehicle.—It requires extract of enfleurage of cassie and of violet, in greater proportion, of extract of jasmine, a little tuberose and a little orange flower. You may also cause to dissolve in the mixture thus composed, the proportion of concrete essence of mimosa, which you consider suitable. This will facilitate the ascertainment of the proportions of the other ingredients. This foundation will be fine and delicate but certainly a little "flat" and without character. To be brought out, the concrete essence of mimosa requires an exciting element, especially heliotropine.

Auxiliaries.—Among the foremost we may mention infusion of ambergris, using as much as we can. Add also some artificial musk, the fine lasting quality of which combines well with the softness of the perfume, and some traces of infusion of pod musk, which imparts a high flavor (*montant*). You dilute all this with a small quantity of infusion of orris, of infusion of ambrette seed and a particle of benzoin. Next add to these auxiliaries which you know very well, one that you possibly do not use, *i. e.*, cocoa butter. You make an infusion of 20 or 25 per cent., for instance, in strong alcohol, and, after having heated it *en lait* (we say here infusion because the coca butter is only very little dissolved in the alcohol), with some time for maceration and after filtration, the alcohol will have slightly taken up the odor, it is true, of the cocoa butter, but the delicate nature of some of the character of the hazel nut, with a trace of rancidity, is excellent for accentuating the mixture.

Base.—It would appear that the perfume of mimosa is composed of a sweet principle, a little bitter, very slightly acrid, dominated by a warm but unctuous shading.

You will require the sweet character of crystallized heliotropine; it should constitute the first base of mimosa, because it contains at once, the freshness and the piquancy of the flower. The heliotropine will become added to synthetic mimosa. You should also use anisic aldehyde, which combines perfectly with them, but it must be employed in moderation, because this perfume, used in excessive quantity, develops a straw taint that is not pleasant. The use of anisic aldehyde prevents the heliotrope being too insipid and enables you to dispense with the essence of bitter almonds, which is coarse and hard to proportion. You may add some good synthetic cassie, if it does not smell too strongly of salicylate, and a little artificial violet, which assuages the crudeness of the cassie. The note of freshness is very characteristic of the flower; it should be readily reproduced by essence of leaves of violet, which imparts in addition a great deal of mellowness. The warm feature is found in the synthetic giroflée, but it should not be very conspicuous.

Intermediaries.—These have here a uniquely corrective effect, which is at once easy and difficult to determine; easy because they are only simple adjuncts; difficult because their improper use is capable of debasing a composition, successful up to this point. They should therefore only be used reasonably.

We may mention cumarin, which is on an equal footing with anisic aldehyde; oil of ylang-ylang to support the synthetic giroflée, and concrete ambrette seed is employed highly diluted and proportioned with extreme delicacy. Concrete ambrette seed gives good results for combining the whole and gaining the "very flowery" characteristic of which we have spoken in connection with cocoa butter.

Some like to raise the warm character by means of oil of geranium, others prefer to soften the extract, already soft in itself, with terpineol. We also see mentioned in some

formul: infusion of mace which appears was to be more of an anomaly than a really useful intermediary.

By reason of its nature, extract of mimosa lends itself to the production of perfumes of average price; there is nothing better for perfuming rice powder, creams, pastes, etc. A good mimosa should be invariably temperate and but slightly penetrating. It is this that gives it its charm; it usually pleases and may be employed with more success because it reproduces the flower particularly well. It allies itself and combines easily with strong odors, the balsams particularly.

BOOK REVIEW.

THEORIE DER GEWINNUNG UND TRENNUNG DER "ATHERISCHEN OELE." By Dr. C. von Rechenberg. Published by Schimmel & Co., Miltitz (near Leipzig), Germany.

This work is a complement to The Volatile Oils, by Gildemeister & Hoffmann, and will be of great value to the producer of essential oils and to the scientifically trained users of these products. An English reviewer says of this work: "There has been little attempt, so far at least as current literature shows, to reduce the phenomena of the art of distilling essential oils to scientific system. The properties of volatile bodies, and their behavior when vaporized, are among the fundamentals upon which chemical science is based. The separation by distillation of the constituents of mixtures of volatile bodies has been carefully studied during the past thirty years; Ramsay and Young's researches may in this connection be cited as being generally familiar to English workers. Other physical laws which influence uniformity of vaporisation are common knowledge to chemists, but it cannot be said that they have been taken full advantage of by oil-distillers; although some of them are indispensable to uniformity of product. On the chemical side there has accumulated since 1850 a vast store of facts regarding the influence of heat and steam upon organic bodies, such as are found in the aromatic constituents of plants, and the correlation of these to the characters of essential oils must also influence uniformity of product. Dr. von Rechenberg's treatise is a successful effort to bring together, in their application to essential-oil distillation, these and other scientific data, hypotheses, and laws. He has written as a man working inside of an oil distillery (Schimmel & Co.'s, Miltitz by Leipzig), whose business it is to watch the stills, what is put into them, how they are worked, and what they yield. The sketches of distilling-apparatus and of the structure of aromatic drugs in the first chapter give the keynote of practicality to the volume, but it is essentially a book for men well grounded in chemistry and physics, as the following titles of its fourteen chapters indicate:

"(1) Practice of distillation; (2) Dalton's law of diffusion; (3) distillation of reciprocal mixtures of insoluble fluids; (4) distillation under increased or reduced pressure; (5) distillation by superheated steam; (6) the chemico-physical factors in plant-distillation; (7) petit-culture and peripatetic distillation; (8) molecular association and dissociation, their influence on evaporation; (9) boiling-points and vapor-pressure of similar bodies; (10) generalizations on solutions; (11) distillation of reciprocal mixtures of fluids of limited solubility; (12) distillation of homogenous mixtures with low boiling-points; (13) distillation of mixtures without constant boiling-point; and (14) distillation of labile addition products (homogeneous mixtures of high boiling-point).

"Throughout the treatise there are scores of pages of tables of boiling-points, not only of products *per se*, but of mixtures of them with other substances, and the effect of abnormal physical conditions upon distillation. The material thus brought together is of high practical value to oil-distillers, and the book contains, besides, special information regarding individual essential oils, their production and characters. We congratulate the author upon the completion of a monumental work ('Es ist ein Stück Lebensarbeit,' he tells us), which is an exposition of essential-oil production that carries a lesson in thoroughness to all engaged in that industry."

BALSAMS OF PERU AND TOLU.

By ERNEST J. PARRY, B.Sc., F.I.C., F.C.S.

Balsams of Peru and Tolu are more or less closely related to one another as containing a considerable amount of odorous constituents which are derivatives of cinnamic acid. They are both of importance to the perfumer and both are very frequently adulterated, the former especially, with synthetic products which are very odorous and of considerable value, but, being cheaper than the natural product, their sale as the genuine product is a matter of prejudice to the buyer.

Peruvian balsam is the product of Toluifera Pereirœ (Myroxylon Pereirœ), and is a thick oleo-resinous matter containing the following constituents: A large amount of a highly odorous liquid which is termed Cinnamein, and which consists in the main of benzyl esters of benzoic and cinnamic acids together, ciinamyl cinnamate, which is often termed styracin. There is some free cinnamic acid, a little vanillin, and a trace of free benzyl alcohol. A complex alcohol also exists in the form of esters. This has been termed Peruresinotannol, and it is found in combination with benzoic and cinnamic acids. It has the formula C_{18} H_{20} O_5. Some hydrocarbons are also present. But in the chemical examination of balsam of Peru, it is neither necessary nor practicable to make anv such exhaustive examination of the sample as will disclose all these constituents.

This valuable substance is frequently adulterated, generally with the cheaper Cinnamic balsams of which Storax and Tolu balsam are the types, or with common colophony. Extracts of Gum benjamin, and even castor oil have from time to time been discovered as adulterants. But at the present time a dangerous and common form of adulteration is the so-called synthetic balsam of Peru.

Many more or less empirical tests have been proposed for this balsam, and many of them have found their way into various editions of Pharmacopœias. For example, it is stated in one edition of the German Pharmacopœia that the pure balsam does not harden on the addition of a little calcium hydrate.

This is incorrect since genuine Balsam of Peru forms a hard compound with pure calcium hydrate. I will not mention the many other qualitative reactions which have from time to time been published, other than to say that they are very frequently incorrect, and it is only quantitative reactions that are of any value in the critical examination of this balsam.

The following determinations should be made when a sample of this substance has to be analyzed:

(1) The specific gravity at 15°. Various figures have been given for this, but so far as my experience goes, natural balsams rarely vary outside the limits 1.140 and 1.150. From time to time genuine samples will be found which come outside these limits, but any sample with a specific gravity much outside would be regarded with considerable suspicion.

(2) The acid and ester values. The acid, ester and saponification values of 35 samples examined by the writer, all of undoubted authenticity, fell within the following limits:

Acid value	62.5	to	81
Ester value	169	to	208
Saponification value	235	to	269.5

These values may be taken as typical for genuine balsams.

Dieterich has examined a number of pure samples of Honduras Balsams and gives the following as typical analyses of three samples:

	1	2	3
Acid value	77.46	76.92	77.34
Ester value	165.61	137.42	137.67
Saponification value	243.07	214.34	215.01
Cinnamein, etc.	71.41%	77.56%	73.63%
Resin ester	15.7%	13.18%	17.32%
Insoluble in ether	4.38%	4.31%	3.57%

An examination of the Cinnamein present is necessary, and this is best conducted on the lines laid down by the British Pharmacopœia, which I have found to be generally accurate for genuine balsams. This is as follows:

Five grammes of the balsam should be well shaken with 5 cc. of a solution of sodium hydroxide of specific gravity 1.160 and then well extracted with three successive quantities of pure ether, the ether removed each time and three extracts gently warmed to evaporate the ether, and then dried very cautiously at about 60-70% until the difference between two weighings after 5 minutes' interval does not amount to more than 10 millegrammes. This residue should weigh between 2.85 and 3 grammes, that is from 57 to 60% of the sample. In order to ensure that this residue contains a full quantity of esters it should then be saponified by boiling for half an hour under a reflux condenser with 20cc. of normal solution of potash in alcohol. The amount of normal alkali required for saponification should be between 12 and 13 cc. (the British Pharmacopœia requires from 11.9 to 12.8 cc., but these limits are a little too narrow).

A test upon which too much reliance must not be placed is the following:

Five grammes of the balsam is well shaken with petroleum ether, and the petroleum ether separated. This, containing certain constituents of the balsam is then filtered and shaken with a solution of 0.1 gr. of copper acetate in 100 cc. of water. If a deep emerald green color is produced in the petroleum either, due to the solubility in that liquid of copper resinate, it is a strong inference that common colophony is present. At the same time a pale green color undoubtedly results in the case of some perfectly pure balsams.

There is also a considerable difference of opinion in regard to the value of the following test. If 5 grams of the balsam be extracted with benzol and the filtered liquid evaporated no green color should result when the residue is spotted with strong nitric acid. According to some observers genuine balsams may give this reaction, and it is therefore considered untrustworthy.

Quite apart from chemical analysis, an experienced observer will be able to judge to a great extent of the presence of certain adulterants by the odor of the sample, and by its peculiar tackiness when drawn out between the fingers. There is a considerable difference between the natural and the synthetic balsams in this respect, which only experience will enable one to understand.

BALSAM OF TOLU.

This balsam is obtained from Myroxylon Toluifera, a leguminous plant growing in the northern portions of South America.

Its principal constituents are as follows: Benzyl benzoate, benzyl cinnamate, free cinnamic and benzoic acids, the benzoic and cinnamic esters of an alcohol termed toluresinotannol, vanillin and various other constituents in small quantities. The alcohol characteristic of the balsam, toluresinotannol has the formula $C_{16}H_{14}O_3OCH_3OH$.

A small quantity of a very pleasant smelling essential oil can be obtained from this balsam by steam distillation, but it has no commercial importance. It has a specific gravity of about 0.960 to 1.030, and is optically active to a small extent. It contains a small amount of the terpene phellandrene.

Tolu balsam is often adulterated, the principal adulterant being either the exhausted balsam from which the useful portion has been abstracted, or common colophony. It is only under exceptional circumstances, such as when the balsam is abnormally dear, that other adulterants are found to any extent. The presence of exhausted balsam is detected by the shortage in volatile constituents, whilst the presence of colophony is indicated by positive reactions such as the Storch-Morawshi reaction. In this case, as with Peru balsam, many of the qualitative tests recommended are useless. The examination of 28 genuine samples by the writer gave the following limits of figures for Tolu balsam:

Acid value	100-142.5
Ester value	32 to 57.8
Saponification value	156 to 179
Specific gravity	1.088 to 1.1029

According to Dieterich the following table of solubilities applies to this balsam:

In alcohol 90%	Completely soluble
Ethyl acetate	Completely soluble
Chloroform	Almost completely soluble
Ether	53.2% to 87.9%
Benzene	82.2 to nearly 100%
Petroleum spirit	2.2 to 10%
Turpentine	27.8 to 54.4%
Carbon disulphide	19.6 to 88.1

The solubility test in carbon disulphide is of better value than the above table would indicate, and it is probable that this table includes some adulterated samples.

If 5 grammes of the sample be boiled with three successive portions of 25 cc. of carbon disulphide, and the mixed extracts filtered, the solvent evaporated, and the residue dried at a gentle heat, it should be distinctly crystalline, and should require for saponification, when boiled under a reflux condenser, not less than one-third of its weight for saponification.

When judging the quality of a sample of Tolu balsam, its age must be taken in account. It is well established that when this substance is stored for a length of time, the balsam loses from 8 to 10% of its weight, and naturally passes into a brittle condition. Some people seem to prefer a hardened balsam, so that much of this type of balsam is purposely hardened with common colophony. The more of this adulterant present, the higher the solubility value in carbon disulphide. But colophony is best tested for in the following manner:

One gramme of the sample should be boiled with 10 c.c. of acetic anhydride for a minute or two, and after the liquid is cold it should be filtered, with the aid of a pump if necessary. A mixture of sulphuric acid and water of the specific gravity 1.5000 should be prepared and when cold a few drops are allowed to flow slowly and carefully into the tube containing the acetic an-

hydride solution, so that it does not mix with it but remains upon the surface. In the presence of colophony a reddish violet color will be at once produced at the junction of the liquids. The color is fleeting, soon changing to a reddish brown. The copper acetate test with petroleum ether described under balsam of Peru has been advocated by some chemists, but experience has shown that this is not a reliable test in the case of balsam of Tolu, since there are many pure balsams which give this reaction.

An exhausted balsam will be indicated by a low acid and ester value, but if there should be colophony added to the extracted balsam, the acid value may be normal or even excessively high, but the ester value will be much too low. If colophony be the only adulterant, the Storch-Morawski reaction will give a definite indication, which will be confirmed by a high acid value and a low ester number.

It is always best, with both these balsams, to discard doubtful indications obtained by qualitative tests, other than the positive test for colophony described above, and to rely solely on the quantitative determinations which at least give more or less reliable indications, and sometimes very positive information.

BOTTLES

By H. J. BOOTH, Imperial Glass Co., Charleroi, Pa.

Probably the first factory in America was a bottle factory, built at Jamestown, Va., by eight Poles and Germans, sent over by the London Co., with Captain Newport on his second voyage. Bottles were among the first exports of the colony. A description of this factory and its methods would prove very interesting, but historians and writers concern themselves with affairs of war and love and not with such sordid matters as the manufacture of bottles. This factory was followed by others in Salem, Mass., Philadelphia, New York City, Salem, N. J., and Pittsburg.

At the present time glass is manufactured in two styles of furnace. The first, or older style, is known as the pot furnace. It is simply a round stack of considerable height, with openings or arches in which are placed the pots or clay crucibles in which the glass is melted. The flame, of either natural or producer gas, comes through an opening in the bench of the furnace called an eye, strikes the cap, and is distributed around the pots seeking entrance to the flues, which are built in front of the pots, and thus escapes to the stack. The raw materials are fed into the mouth of the pot and the pot is sealed. It takes from 24 to 32 hours for the glass to melt, therefore the pots can be worked only on alternate days. Pot furnaces may or may not be regenerative.

The other style of furnace and the one in most general use today for the manufacture of bottles, is called a continuous tank. Tanks are mostly regenerative. This style of furnace consists of two compartments, the melting and the working. The melting compartment is usually oblong in shape, and the fire is supplied directly to the materials, which are fed at regular intervals at an opening in the rear of the tank, sometimes called the "doghouse." From the melting compartment the molten glass flows through a neck from 12 to 20 inches square into the working compartment, which is usually in the form of a semi-circle. Around this semi-circle, the openings or work holes are placed. One shop works at each opening. A shop consists of three skilled workers known as blowers. Two of these three make the bottles, while the third finishes the neck.

In blowing a bottle, the blower uses an iron pipe about 42 inches in length and varying in thickness according to the size of the bottle he is making. On the end of this pipe he gathers what he judges to be the proper quantity of glass to make his bottle, works it smooth on a marvelling plate, and then places the glass in the iron mould, which the mould boy has opened for him. The boy closes the mould, the blower blows out the bottle, the mould is opened, the bottle taken from it, and placed in a snap or holder. The snapper-up or sticking-up boy places the bottle in the glory hole, neck in the fire, and after it is reheated the finisher forms the lip with a pair of finishing tools. The bottle is then carried to the lehrs to be annealed, which means in plain language, to be gradually changed from hot to cold.

Right here, let me call your attention to the fact that the workman or blower is compelled to guess at the quantity of glass he gathers for each bottle. He can do nothing else, as it is impossible to weigh or measure the molten metal. This is the reason that it is impossible to guarantee the absolute capacity of a bottle. The fact that the blower cannot weigh, measure or gauge the quantity of glass is recognized by both manufacturers and blowers in the arrangements of a table of variations which must be allowed in the selection and packing of bottles. For example, on all bottles below 6 oz. in weight, a variation of ¼ oz. each way is allowed; from 6 to 12 oz., ½ oz.; from 12 to 32 oz., 1 oz.; from 32 to 40 oz., 1½ oz.; above 40 oz., 2 oz.

The theory of the displacement of capacity by weight is on a basis of 3 to 1, that is, three ounces of additional glass will reduce the capacity of a bottle 1 oz., or 1 oz. additional glass will reduce the capacity ⅓ oz., but in practice this will not always work out exactly, as the position of the surplus glass in the bottle will affect the matter. If the extra weight is in the neck or upper portion of the bottle where it does not come into contact with the contents, it will not affect the capacity; but if in the bottom or body of the bottle, it will naturally reduce the capacity.

The outside dimensions of bottles made from the same moulds are practically the same, but the inside dimensions vary according to the weight and thickness of the glass, and also to its distribution. It is an utter impossibility for the bottle manufacturer to graduate each and every bottle, so the only method of selection he has is by weight, which, as explained, is not an absolutely correct test of capacity.

For the purpose of determining what percentage of bottles was really correct weight and therefore nearly correct in capacity, we recently had some tests made in our factory. We had every individual bottle in a certain day's work weighed and record kept of same. In one test

the bottle was a 1-oz. B. N. panel, average weight 2¾ oz. Of he day's work of 3,241 bottles 1,079, or about 33 per cent., weighed exactly 2¾ oz. The variations agreed on for this bottle are ¼ oz. each way, or 2½ to 3 oz. Of 3,241 bottles, 3,146, or 97 per cent. were within the agreed weight, while only 95 bottles, or 3 per cent., were outside the limits. Very accurate work, when you consider that the blowers had no way to gauge or measure his glass when gathering, and yet if absolute accuracy were insisted upon, only 33 per cent. of this day's work would be considered acceptable. The blowers who made this day's work had no knowledge of the fact that we were making the test. They are men who have been working the same style bottles for over twenty-five years, and are, I think, the equal of any three men engaged in the trade today.

In another day's work of 2-oz. B. N. panels, average weight, 4 oz., variations allowed 3¾ oz. to 4¼ oz., the following results were noted: Of 3,994 bottles, constituting the day's work, 1,635 or 41 per cent. weighed 4 oz., 3,722, or 93½ per cent., weighed between 3¾ and 4¼ oz.; 267, or 6½ per cent., weighed under 3¾ oz.; only 9 bottles weighed over 4¼ oz.

In the test of 2-oz. B. N. panels, assuming that the bottles held exactly 2 oz. at 4 oz. weight, only 341 bottles, or a little less than 9 per cent., weighed over 4 oz., and would therefore be short capacity to the extent of about 1 dr. Assuming that the entire day's work had been shipped to one flavoring extract manufacturer, he would give the consumer from this lot of bottles, 1,497 of the correct capacity, 2,022 averaging 1 dr. over capacity, equaling 2,022 drs. extract, and only 341 averaging 1 dr. short capacity, or 341 drs. extract, making an excess of 1,681 drs. extract, or 210 oz.

Surely this is playing fair with the public, and yet if the pure food inspector should happen to get hold of one of the 341 which were short capacity, the manufacturer would be condemned. The reasonable solution of this matter of capacity is to accept as full capacity any bottle which comes within the range of variations agreed upon by the manufacturers and blowers. These allowances are the result of years of experience. Under this ruling, a bottle from 1 oz. to 4 oz. inclusive, should be accepted if not over 1 dr. short in capacity; from 6 to 12 oz., if not over 2 dr. short; 16 oz., if not over 3 dr. short; and 32 oz., if not over 4 dr. short. The consumer would average full capacity, and, indeed, if we take the two tests I have mentioned as a criterion, he would get more than full capacity.

The manufacturer cannot guarantee that any particular crate of bottles will average full capacity, as all the heavy bottles in a day's work might be placed in the same crate. For instance, in the test of 2 oz. bottles, there were 341 over weight; it is possible that these 341 might have been made within one hour and therefore would be packed together.

Breakage of glass is due to several causes: Improper combination of raw materials, an excess of silica or a deficiency of alkali; insufficient heat in furnace; uneven distribution, and improper annealing. Annealing, as I have said before, is simply the gradual changing of the bottles from hot to cold. This is accomplished by placing the bottles in the lehrs, the temperature of which at the entrance should be approximately the same as the bottle. The lehrs are from 50 to 60 feet long, and are built of fire brick in the form of an oven open at both ends. The fire extends only about one-fifth of the length of the lehr. The temperature of the lehr lowers very gradually as the bottles pass from the fire, thus giving the desired result. Carelessness on the part of the lehr tender in not keeping his lehr at the correct temperature will cause breakage.

I have frankly acknowledged the faults of the factory in this matter of breakage. Now let me call your attention to the fact that a great deal of breakage is due to rough handling in transit by the transportation companies, draymen and receiving departments. Our present methods of packing, the open crate with paper instead of closed box with hay, has very largely decreased the percentage of breakage in transportation, as the men can see what they are handling, and are more careful than they were with the old style package. Your receiving departments should be very careful before signing for shipments to make sure that the crates or cases are in good condition. If not, they should make a notation on the receipt that the goods were received "in damaged condition subject to claim." We bottle manufacturers feel that we have to stand for a great deal of misplaced responsibility in the matter of breakage, and we earnestly urge you to use extreme care in the matter of examining thoroughly each shipment before giving the transportation company a clear receipt for same.

With your kind permission, I want to sound a note of warning against the use of the abnormal bottle. By abnormal bottle, I mean the odd or fanciful shape. These odd shaped bottles are hard to make, and increase very much the probability of breakage. Do not ask us to exceed the limit of practicability in the matter of putting extra glass in a bottle. The desire on your part to have a 1 oz. bottle which will look as large as the other fellow's 2 oz. bottle has caused your bottle manufacturer no end of trouble and expense, and has resulted in there being placed upon the market numbers of ill-shaped, ill-proportioned monstrosities, not deserving the name of bottle. Choose the reasonable and natural, rather than the unpractical and unreal.

In conclusion, just a few words about the making of bottles by machinery. This industry is one of the latest to be invaded by the machine. The pioneer in the manufacture of bottles by machinery was Mr. C. L. Flaccus of Pittsburg, who produced them in Beaver Falls, Pa., during the year 1893. The machines used are known as "side lever" machines. The operation, consisting of pressing or prepressing the neck or finish of a bottle in what is known as a blank mould and then transferring the glass to another mould, where it is blown out by compressed air. This machine is only adapted to the manufacture of wide-mouth bottles and jars.

Then we have the "Johnny Bull" or English machine, deriving its name from the fact that it was patented and first used in England. In this machine, the blank mould is reversed, and the glass is dropped in the bottom, the neck or finish pressed from below; then the glass is reversed, placed in the blow mould, and the bottle blown by compressed air. This machine will manufacture narrow-mouth ware of the large sizes. Up to this time its use has been confined to beers and sodas mostly.

The greatest machine of all is known as the "Owens" machine. This machine gathers its own glass, presses the neck and blows the bottle by compressed air without the aid of human agency. The latest machines have five arms with two moulds to each arm, or ten moulds in all. The tank furnace used for the Owens machine has the same melting compartment as the regular tank, but the working end is a circular pan lined with clay blocks. This circular pan revolves in one direction while the machine revolves in the opposite direction. The arms of the machine, each in its turn, automatically drop to the level of the glass and draws the necessary quantity of glass into blank moulds, the neck is pressed and the compressed air released automatically. It is one of the most ingenious pieces of machinery ever invented by man, and most interesting to see in operation.

Machine made bottles are more accurate in capacity, due to the fact that the blank mould is made the correct size to contain the quantity of glass desired; and also for the reason that the pressure of compressed air is strong and even, resulting in a better distribution of the glass. The machines now make a very large percentage of wide-mouth bottles, including milk jars, packers' and preservers' ware, beers, sodas, etc. It has not yet succeeded in making the extract panel. This will probably be the last bottle it attempts, as it will be the most difficult for it to make.

THE CHEMISTRY OF VANILLA BEANS AND THE CHARACTER OF THEIR CONSTITUENTS IN GENERAL*

By SAMUEL ISERMAN, of Van Dyk & Co., New York

There is at least three times as much vanilla consumed as of all other flavors together, and in all probability the consumer knows less of its origin than of any other material from which extracts are made.

This was stated by the well known Dr. E. M. Chace, chief assistant of Dr. H. W. Wiley in Washington, D. C., in a pamphlet issued by the Department of Agriculture.

The truthfulness of this statement was appreciated by us long ago, and that gave rise to the idea of investigating vanilla beans from the point of view of a flavoring substance, as well as from a chemical standpoint.

In order to prove the importance of the subject, I hereby beg to quote from *La Dépêche Coloniale Illustrée*, Dec. 15, 1909, where I found the following statistics regarding the cultivation of vanilla beans:

Crops in.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.	1906-07.	1907-08.	1908-09.
La Reunion	96,000	62,000	110,000	100,000	90,000	55,000	72,000	30,000	54,000	68,000
Seychelles	42,000	18,000	72,000	52,000	66,000	50,000	45,000	20,000	52,000	22,000
Comores	12,000	28,000	40,000	70,000	55,000	95,000	125,000	105,000	85,000	68,000
Madagascar	....	....	....	....	....	20,000	30,000	40,000	50,000	55,000
Maurice	4,000	3,000	2,500	2,000	2,000	2,000	2,000	3,000	2,000	2,000
Antilles	8,000	2,500	5,000	10,000	6,000	3,000	2,000	2,000	10,000	6,000
Java and Ceylon..	15,000	15,000	1,500	4,000	3,000	3,000	2,000	3,000	6,000	6,000
Fidji	1,000	1,000	2,000	1,500	2,000	1,500	1,000	1,000	5,000	5,000
Mexico	50,000	30,000	30,000	38,000	35,000	130,000	75,000	120,000	100,000	100,000
Tahiti	45,000	89,000	145,000	131,000	135,000	122,000	135,000	141,000	173,000	200,000
Total kilos.....	273,000	248,500	408,000	408,500	393,000	481,500	489,000	465,000	537,000	532,000

The most interesting fact regarding these figures is the increase in use of vanilla beans from 273,000 kilos, or (about 500,000 lbs.) in 1899-1900 to 532,000 kilos (about 1,170,000 lbs.) in 1908-09, and this in face of the fact the synthetic vanillin during that time has been coming down in price until it reached ridiculously low figures.

I would advise every one interested in vanilla to obtain a copy of *La Dépêche Coloniale Illustrée*, as a good many highly interesting points will be found therein. The illustrations in this article were taken therefrom.

The author, Mr. Henri Vermond, is to be congratulated on the thoroughness of his article.

La Dépêche Coloniale Illustrée is published in the French language by Mr. J. Paul Trouillet, Paris, France, 19, Rue Saint Georges, for the purpose of helping the industries of the French possessions.

Mr. Vermond, in his article speaking of the disasters that the vanilla bean planter has to contend with, among other things mentions the manufacture of synthetic vanillin as being one of the principal disasters. He is also of the opinion that the United States Government in passing the Pure Food and Drug Act, has saved the situation.

In accordance with my view, and I think you, gentlemen, will bear me out, the Pure Food Law alone should not get as much credit as all that. No one knows better than the members of the Flavoring Extract Manufacturers' Association, that absolutely pure extract of vanilla was made before the Pure Food bill became a law, and I can mention a good many of these extracts. Furthermore, should the Pure Food Act go out of existence, you, gentlemen, would still continue to make vanilla extract from beans only.

Getting to the subject of my paper proper, will say that I have divided same in three parts. First, I treat vanillin, as it seems to me that nature starts out to produce vanillin, but in the process of manufacture creates other products, which eventually turn out to be of much more importance.

The aroma of the vanilla bean, the more difficult and most important of all, is treated next, and third, a few lines are devoted to the methods of extraction. On this subject I say very little because each one of you has his own method of extracting vanilla beans.

*A paper read at the Extract Convention.

VANILLIN.

When Tieman first discovered synthetic vanillin by decomposing coniferyl alcohol produced from the cambial juice of the coniferes, he thought that he had found the principal aromatic base of the vanilla bean flavor. At that time no one was really interested in same on account of the cost of production. But later on, when he succeeded in making vanillin from the inexpensive eugenol, the vanillin thus made was tried out in a commercial and practical way, and was found not to take the place of vanilla bean as a flavor.

This subject was taken up later, further investigated, and proven to every one's satisfaction, as we are all aware.

Now, regarding vanillin, although the natural being entirely different from the artificial one, it is nevertheless rather difficult to explain how and where the difference exists.

The eminent French chemist, Barbier, in *Comptes Rendus*, as early as 1898 expressed himself as follows regarding vanillin:

A GROUP OF VANILLA PLANTS.

"I do not believe that the difference of the natural and

the artificial vanillin can be explained by the presence of minute quantities of impurities originating from the raw material from which it is made. In the contrary, I regard the two products as isomers. Not isomers in the sense as we understand it in chemistry, but oleofactory isomers."

In other words "isomers of the nose."

By this he means to convey that from the chemist's standpoint both vanillins might even be identical, but from the point of view of a consumer, the natural vanillin has a taste and a smell entirely different from the manufactured article, no matter how pure.

Redcliff (English Chemical Society) makes the following statement:

"Perhaps the time will come when the manufacturer of synthetic vanillin will be able to create a product which is not satisfying for the chemist alone, but for the nose and tongue as well.

Artificial vanillin is a wonderful discovery, no doubt, but can we blame our senses, if they will not be deceived? To compare natural with synthetic vanillin is simply an unjust and unfair proceeding."

By way of comment I will say that those lines are beautifully spoken and they express entirely my opinion as far as my experience has taught me.

Werner's "Untersuchungen von Genussmitteln" has this to say:

"The difference between natural and artificial vanillin is the same as between natural and artificial mineral water." Further he states: "Compare natural vanillin with the artificial product, the natural compound possesses a certain something reminding one of a flower, while the synthetic article will never lose its peculiar phenolic characteristic odor."

George Cohn and Mercier have expressed themselves on this topic in an almost identical manner.

As far as my observations are concerned, I have come to the conclusion that if the different isomers and homologues of vanillin present in the vanilla beans, which I will mention later, were made artificially and properly purified, the result would be much more satisfying; of course up to this time as far as I know, no one has given this matter much thought and consideration.

By way of explanation I will say, that under isomers and homologues of vanillin I mean the chemicals which we may denote as iso, methyl, and ethyl-vanillin, the specific formula of these compounds we have not been able to constitute, but the theory is, that there are possibilities of a good many isomers and homologues of vanillin being present in the vanilla bean, and it is certainly up to some chemist to find and constitute them.

In accordance with Busse the amount of vanillin present in the different grades of vanilla beans is as follows:

Bourbon vanilla beans	1.91% to 2.48%
Mexican Vanilla Beans	1.69% to 1.86%
Java vanilla beans	2.75%
Tahiti vanilla beans	2.02%
German African vanilla beans	2.16%

As far as our experience goes, we never undertook to determine vanillin contents of other beans than Mexican and Bourbon.

Our average findings in accordance with known tests were as follows:

Bourbon beans	2.13%
Mexican beans	1.62%

The next important thing I will take up is the aroma of the vanilla bean.

Having proven to the best of my ability the difference existing between the natural and artificial vanillin, I will now try to demonstrate to you that vanillin, whether natural or artificial, does not play the principal rôle as a flavor in the make up of the vanilla bean aroma.

Berkowitz, in an article entitled "Aroma der Vanillabohnen," says as follows: "All experts admit that vanillin is not the sole factor producing the peculiar flavor in the vanilla bean. It would be a loss of time to compare an extract of pure vanilla bean with a compound made out of artificial vanillin as a base. We know that the nucleus of vanillin pre-exists in the unfermented plant in the form of a glucoside which splits by fermentation, and the effect of a oxydase. At the same time other bodies of phenolic and phenyletheric character are formed, which influence to the greatest extent the real flavor of the vanilla bean."

Some of those bodies are already known, but the investigation is enormously difficult, as up to this time no chemist has succeeded in separating them out in a crystalline form.

VANILLA FLOWERS.

A BEAUTIFUL VANILLA LIANA, FROM THE PLANTATION OF MR. MAURICE SIMON, OF MOHELI.

Before going deeper into the question of the aroma of the vanilla bean, I further beg to quote the following report of a German government chemist, who expressed himself in this manner:

"The odor and flavor of the fermented vanilla bean is caused by the presence of vanillin, vanillin ether, pyrocatechin, protocatechuic acid, protocatechuic aldehydes, and compounds of the character of styrol. These bodies are present in minimum quantities. We have to consider

that the best grades of vanilla beans do not contain more than 3 per cent. of vanillin and odorous compounds, influencing the aroma of the vanilla beans in one respect, while the different resins and gums contained in the beans possess a peculiar odor absolutely necessary for producing the total flavor.

All expert opinion did not stop us from trying to crystallize out vanillin and other compounds contained in the beans. Let me confess to you to start with, while we observed some very interesting facts, on the whole we did not meet with the expected results.

Our first experiment along this line reminded us a great deal of the first mining of radium. We were compelled to waste immense amounts of material in order to get at compounds enough to satisfy us in a chemical sense.

Some of our experiences were as follows: After trying out small amounts of beans several times, we found that we had to use at least 25 lbs. of vanilla beans in order to get at results at all. With this amount of beans we made 125 lbs. of tincture and by distilling off the solvents in vacuo, we arrived at a semi-liquid mass weighing almost 3½ lbs.

This mass was washed, treated, and freed from its useless gums, cellulose and coloring matter.

For the sake of convenience, I will call the resultant product, fluid extract of vanilla, which we found still far from being pure enough for chemical determination. By treating this "fluid extract" repeatedly with petrol ether, we succeeded in getting about 12½ oz. of a yellowish crystalline mass, and by further purifying it with sulphuric ether, we eventually arrived at about 8 oz. of homogeneous crystals.

This result more than satisfied us. But to our great bewilderment the analysis of these crystals showed that we had nothing more than peculiar smelling vanillin in our hands. It seems that all the other, more valuable aromatic constituents were lost in our process.

This showed us that all the known, so-called practical methods, had to be abandoned, and new methods adopted. Our further investigation proved to us that the fault was with both the solvent and method of treatment.

It seems that our solvents, respectively alcohol and water, did not take up all the useful but volatile compounds, and the amount which it did take up evidently was lost partly by our purification method, and partly gone off in the vacuum process previous to that.

This method abandoned, we treated vanilla beans by the aid of heat with aceton, and purified the resultant product further with methyl, ethylketon.

The treatment was also much more slowly carried out, and while we obtained some results, still for the time, labor and money expended, the aggregate results were not very gratifying, to say the least.

Nevertheless, our findings changed to a certain extent the general aspect of the much discussed question, and we know a little more now about the chemical character of the different constituents of the vanilla bean.

For instance, we satisfied ourselves, that all constituents of value in the bean belong to the aromatic series, none to the fatty series.

The general theory is, that the green, unfermented vanilla bean contain only one benzolic compound, the glucoside previously mentioned.

Following this theory, we tried, and eventually succeeded in separating this glucoside out of the green bean, and subjected same afterwards to a number of experiments.

Among other things we found, that the enzyme (or oxydase) becomes only effective by the chemical reaction of a certain organic manganese salt, existing in the vanilla plant together with this oxydase.

The noted French chemist, Le Comte, has made a long series of experiments, which he relates in the *Journal de Pharmacie and Chémie*. His investigations about the oxydase are partly attacked by the German scientists Behrens and Ruhle. Le Comte thinks that vanilla bean glucoside is nothing else but the long and well known coniferin. In this case the effect of the oxydase would go in two different directions. First it would split up the coniferin into glucose and coniferyl alcohol, and then it would oxidize the coniferil alcohol to vanillin.

Our own investigation partly confirms this theory, though we have not succeeded in identifying this glucoside as coniferin. It is true that emulsin will split this glucoside into glucose and coniferyl alcohol, and it is also true that phenol and muriatic acid will change its color to dark blue, the same as it does coniferin, still the boiling point and form of crystallization are somewhat different. But let us consider glucoside and oxydase separately as of second consideration, as the effect of the reaction, in case both bodies are brought together, is of first importance.

We found, as I have already mentioned, that the first step in this reaction is the formation of coniferyl alcohol. Coniferyl alcohol in a chemical sense, is the meta-methylic ether of the paraoxy-cinnamic alcohol.

Now, supposing we do not consider the meta and para-hydroxides and methyl oxides, the oxidation can work in different ways depending, of course, upon the means of oxidation.

In that case cinnamic aldehyde, respectively cinnamic acid may be formed, or the side chain in the first place of the benzol nucleus may be partly or totally destroyed. The result would be that we would arrive from styrol and styrol compounds to benzaldehyde and benzoic acid. But it is an old experience that in case of two or more substitutions of the benzol ring, an aromatic unsaturated alcohol like cinnamic alcohol will simply break up in the side chain without forming its aldehyde and acid.

This, of course, would explain the presence of the styrol compounds found in vanilla beans. On the other hand, the oxidation can work in other ways also, as it can attack the hydroxyle on the para place, or the methyloxide on the meta place, both or all three places together. In this manner could be explained the presence of the homologues, isomers and ethers of the protocatechuic series. We have, indeed, detected traces of all these compounds in fermented vanilla beans, but the percentage obtained was very small and varying.

The great difficulty encountered by the analytical chemist who tries to determine the chemical character of the vanilla bean flavor is that almost all compounds which are of eminent importance for the creation of the odor, flavor and bouquet in general, are not well defined bodies, but polymers of highly molecular order. Vanillin alone being the exception.

These polymers are in a resinified state, and as all resins defy most means of chemical detection, it is almost next to impossible to determine exactly the chemical nature of a resin. Take for instance, Peru balsam, one of the best and longest known resins, which any chemist can acquire at a nominal cost in considerable quantities, still we are almost in the dark about the number of its constituents. Some chemists, like Thoms, believe in the presence of a hypothetical alcohol, called Peruviol, while others deny it.

We have tried all known methods to convert the resinous polymers of the vanilla bean into monomeric bodies, but with no result.

Another very interesting fact is, that as far as I know no author who treats the subject of vanilla refers to the very pronounced acidity of same. This acidity varies as we have constituted to a very great extent, but the average acidity found, will demand a neutralization quotum of about 35 normal Na O H Sol.

Acids present have been determined by us and found to be composed of oxalic, acetic and lactic acid.

Oxalic acid, showing the highest percentage; same we eventually succeeded in collecting in crystalline form.

Tieman and other chemists speak of vanillic acid, the presence of which we are not able to prove. The presence of acetic and lactic acid is easily explained by the fermentation of the bean; with more difficulty can we account for the presence of oxalic acid for it does not pre-exist in the green beans as it does in many other plants, but must be formed later in the process of oxidation. Perhaps the breaking up of the glucoside gives us the correct solution of this problem. It is perfectly consistent with the rôle played by the oxydase to support that this enzyme will also oxidize the glucose and convert same partly to oxalic acid.

REGARDING METHODS OF EXTRACTION.

In the first place, the most of you, no doubt, are more acquainted with the commercial value of vanilla beans than I am. But the question is:

Are you satisfied with your methods of extraction?

Do you get everything of value out of the vanilla bean?

Did it never occur to you that in order to get results you had to sacrifice quantity for quality, or vice versa?

I am sure that these points have caused you many sleepless nights, but to use a common phrase along these lines "we were up against it" the same as you. As mentioned previously, no matter what we tried the result always showed that we destroyed almost all the delicacies of the incomparable bouquet.

At this point I wish to quote the following article written by Van der Velden, who says: "The resinous products play a very important rôle in the vanilla bean. These resinous combinations are very delicate and volatile, and are easily destroyed by crude treatment; a few chemists have succeeded in separating those essential flavors from the resins, which by the way does not release them without detriment to the important compounds. Now we are sure that these resins are products to be compared with Balsam of Tolu and Peru, though they may belong to different series."

I do not suppose it is necessary for me to go into details regarding the different methods of extraction used in the manufacture of vanilla extracts.

But undoubtedly a good many of you, amongst other processes, have tried vigorous means of extracting vanilla beans, and if you did, always gave it up in disgust on account of discovering the loss which you suffered of the fine bouquet as mentioned above.

The heating of the menstrum with the beans has also proven to be a fatal experiment as all of the highly flavored aldehydes decompose by heat, and form for the most part ill-smelling hydrocarbons and phenols.

The best method in our experience has been warming the beans with its menstrums in vacuum, but nevertheless, it was found that at least 20 per cent. to 25 per cent. of the vanillin ethers and esters were carried into the pump, which, of course, is an irreparable loss.

Taking in consideration all that is said on this subject in conjunction with our own experiences, we have assured ourselves that the only successful means of extracting vanilla beans is by enveloping and protecting the most evasive flavors, while collecting the ones which are not so easily affected by the mechanical and chemical extracting methods.

Now we have considered vanilla beans from all points of view, in conclusion of which, I wish to state as follows:

I do not believe that the natural flavor (I mean the special bouquet of vanilla beans), will be reproduced by artificial means before years to come; possibly we could satisfy the sense of smell, but never could we deceive the much higher sense of taste.

The flavor of the vanilla bean is one of the selected number of natural delicacies for which no artificial makeshift will make good.

Keystone Soap Co., Warren, Pa.; capital, $50,000.

Krebitz Process Co., of America, Aurora, Ill.; to manufacture soap; capital, $100,000. Incorporators; P. Krebitz, J. H. Jobbins, E. F. Jobbins.

F. Reiner & Co., Philadelphia, are successors to Reiner & Rees, manufacturers of soap, soap powders, etc.

H. C. Nellis is the moving spirit of the Golden Fleece Soap Co., Auburn, N. Y., recently organized to make special soaps.

The DeWitt Co., New Haven, Conn.; capital, $10,000. Incorporators: DeWitt G. Saltsman, Wm. E. Belcher, and Thomas G. Bowers; to manufacture toilet preparations.

James S. Kirk & Co., Chicago, are now occupying their new quarters at 106-112 East Michigan street. The building is entirely devoted to the office force, which was formerly housed at the factory.

CITRUS OILS*

By DR. CLEMENS KLEBER

The pleasant odor of the various fruits of the Citrus family, to which belong the lemon, sweet and bitter orange, limette, mandarin, cedro and grapefruit, cannot have failed to attract attention at a very early period of history, and the first attempts to isolate the bearer of these pleasant odors in a concentrated form have no doubt been made also at a very remote date. The earliest statements about the production of essential oils from lemon and orange date back to the middle of the sixteenth century, and after this time we find these oils mentioned regularly in price ordinances and dispensatories. Both possible methods for production of these oils, that of distillation with water, and that of expression have been in use at that time.

Regarding their present exclusive mode of preparation, the citrus oils occupy quite an isolated position. While practically all the other essential oils are produced from the plant material by distillation, either with water or live steam, this process is of little use for the citrus oils, and furnishes only very inferior products. The reason for this peculiarity is that the action of water in connection with the acids contained in the peels of the fruit destroys some of the most valuable and very delicate constituents of the oils more or less completely at the elevated temperature required for the distillation. The process which therefore has to be resorted to, is that of cold expression. Unfortunately, this process is a rather laborious and expensive one, and can therefore only be worked in countries where labor is cheap, as i. e. in Italy. Many efforts have been made to cheapen the extraction by the use of machinery, but so far not with much success.

The method after which by far most of the lemon and orange oil is produced, is the following one: The fruit is cut in halves or sometimes into smaller pieces, the pulp scooped out and used for the production of orange and lemon juice and citric acid. The laborer then sits holding on his lap an earthen dish over which a wooden cross piece is fastened which holds in its center a sponge, usually cup-shaped, sometimes flat. The man then presses the fruit peel against the sponge and squeezes it with a rotary motion. In this way the oil cells are ruptured, the oil splashes out in droplets and is taken up by the sponge. When the latter is sufficiently saturated, it is squeezed out, the oil flowing into the dish, together with some slimy water, from which it is poured off and filtered. The expressed peels still contain quite some oil, which is distilled out with water vapor, usually in a rather crude way, and which, being of very inferior quality, is admixed in larger or smaller proportion to the cheaper grades of commercial oils. By this process one man can handle about 800-1,100 lemons per day, from which he produces 2-3 pounds of oil, and for which work he receives 40 to 60 cents, while the women and children who do the cutting, scooping, etc., work for about 5 to 25 cents.

In Southern France, the so-called Ecueille is still somewhat in use, a semi-globular instrument with a short tube at the bottom, and needle points inside. Against these the fruits are rubbed, and the liberated oil flows out through the tube. There is also in some districts the so-called machina in use, in which about half a dozen oranges are rotated against a rough surface, thereby tearing the oil cells, but this machine proves it can be used only with fruits of even shape and size, and is not applicable for lemons at all, on account of their irregular shape. You see there is still a good field for the ingenuity of inventors, to construct a serviceable machine working on a larger scale, which alone would make it possible to produce these oils in countries with high wages, as the United States.

Now I want to say a few words about the properties and chemical composition of oil lemon and orange, the two oils chiefly interesting the extract manufacturer. These oils are, as you know, thin oily liquids, of a rather

*A paper read at the Extract Convention.

deep yellow to orange color, frequently with a bluish or bluish-green fluorescence. Their specific gravity shows but little variation, being between 842 and 0.846 with oil orange and between 0.851 and 855 with oil lemon, at a temperature of 25 degs. C. Their optical rotation also generally varies only between narrow limits, less than with most other oils possessing a strong optical activity; for the majority of lemon oils it lies between +58 and 60 degs., at 25 degs., only occasionally varying, according to season and locality, as much as from +55 to 64 degs., while oil orange has, of all the ordinary oils, the highest dextro-rotation, namely, 95-97 degs., with the rarer limits 93-98 degs. The determination of the optical rotation of these oils plays, therefore, an important role in testing their purity.

In their chemical composition oil orange and lemon show in a marked degree a peculiarity of many other oils, namely, that the substances to which the odor which constitutes their special value, is due, are present to only a relatively small percentage, while the bulk of the oil consists of substances with only a weak and indifferent odor, substances which play only the role of a rather undesirable diluent. These diluents, of which lemon oil contains about 90 per cent., and orange still more, belong to the class of terpenes and sesquiterpenes, substances which consist only of carbon and hydrogen. Of such terpenes are present in lemon oil: Camphene, l- and b- pinene, phellandrene, limonene, terpinene, bisabolene and probably cadinene, while the terpenes of orange oil consist chiefly of limonene. These terpenes have only a weak, flat odor, reminding of stale oranges; they are but sparingly soluble in alcohol, and are rather apt to undergo oxidation, thereby assuming the well-known disagreeable terebinthinate odor which is so frequently found in old or not very carefully kept oils.

The composition of the remaining 10 per cent. of lemon oil, or 4-5 per cent. orange oil, to which their flavoring value is due, is still rather complex. This part consists of substances which all contain oxygen, and of which so far the following have been identified: Methyl heptenone, octyl aldehyde, nonyl aldehyde, citral, citronellal, terpineol, linalyl acetate and geranial acetate. The list is apparently not yet complete, as a mixture of these substances in the proportions indicated by analysis does not yet reproduce the full lemon flavor. In oil orange there were found: Decyl aldehyde, possibly also citral, nonyl alcohol, linalool, terpineol and anthranilate of methyl; also these bodies in mixture do not yet make a perfect orange flavor.

This very complicated composition of these oils makes the analytical testing of the same for purity as well as for the naturally occurring variation of the various brands a very difficult and not yet fully solved problem. The adulteration of these oils is perhaps nearly as old as their production. Formerly the most common adulterant was oil of turpentine. With the introduction of polariscopic tests this could easily be found out by the lowering of the optical rotation. In the case of lemon oil, such as a too low rotation, could be corrected by the addition of oil orange or of strongly dextro-rotary limonene from some other source, like the manufacture of carvone. To check this adulteration, the chemists of Schimmel & Co. devised their distillation method, which is still of good service today, either in its original or a more or less modified form. It consists in distilling off, under specifically detailed conditions, the first 10 per cent. of a lemon oil, which, with pure oils, should not differ in their optical activity more than 5 degs. from the original oil, while oils containing oil turpentine show a materially greater difference. This test, though generally of great value, unfortunately fails in the case of another apparently rather frequent adulteration. As I have mentioned before, the flavor of the lemon and orange oils is chiefly due to a small percentage of oxygenated constituents, and not to the terpenes which are more or less an undesirable ballast. Successful attempts have been made since quite a few decades to produce flavoring extracts without these objectionable terpenes. As the latter are more volatile than the oxygenated constituents, they can either be removed by distillation, preferably in a vacuum, to avoid decomposition, or the oxygenated compounds can be extracted by agitating the oil with a somewhat diluted alcohol, in which they are much more soluble than the terpenes. In these two ways the so-called terpeneless oils and extracts are produced, which have the double advantage of better keeping and not producing a therebinthinate odor, if kept for some length of time, but also of not producing that undesirable cloudiness, if used for flavoring soda water, etc., which is caused by the separation of the insoluble terpenes.

These processes of making terpeneless oils and extracts furnish us practically worthless by-products, large quantities of waste terpenes, which have a similar behavior in the polariscopic and distillation test as the pure oils, a fact of which the adulterators were not slow to avail themselves. To my knowledge, so far no satisfactory method has been published to detect the addition of moderate quantities of such terpenes, but I see from a recent publication of the Bureau of Chemistry that the chemists there are working now about a method which promises good results. I have also made some efforts in this direction and hope to be able to furnish some contribution towards the solution of this problem in the near future. For some time the solution has been sought in the direction of finding a sensitive and accurate method for determining the percentage of citral which is present, but I have some doubt if such a method would really be sufficient to check adulteration, a point which I intend to touch again later on in connection with some other questions.

As by far the greater part of the lemon and orange oil produced is used for flavoring food products, it is quite natural that the pure food legislation has directed a good deal of its attention to them. Before the enactment of the present pure food and drug law the question of purity of these oils rested chiefly with the druggists with regard to the requirements of the U. S. P., which, in former years, was essentially the standard only for medicinal preparations. Only in recent times this book has, by a somewhat sweeping decision, been made the standard for all commercial products with which it deals at all. I have some doubt if this ruling was really a very fortunate one, as it seems to me that the requirements of the U. S. P., which has in the first place to consider the medicinal properties of the substances involved and those of the general trade which uses the same products for a variety of other purposes, are two entirely different things.

When the present U. S. P. was framed, the point was brought out that substances intended for use in medicinal prescriptions should be in composition as uniform as possible, so that their medicinal effect could be depended on. The standards for U. S. P. articles should, therefore, be drawn as close as would be consistent with the possibility of regularly supplying such standard qualities, and be narrow enough to exclude any products about the purity of which there might be any doubt. More or less abnormal products, as frequently result under unusual conditions of season and climate, should not be admitted for use in medicine, though they might be unadulterated, and might be perfectly useful for other purposes.

This standpoint which stood to good reason as long as the U. S. P. represented only the standards for articles to be used medicinally, has caused a good deal of trouble when these standards were made obligatory for the general trade, as frequently oils which would have been of good use for the perfumer or the manufacturer of extracts and condiments would not fall between the U. S. P. limits regarding one or the other of their analytical figures. Thus f. i. orange oil would not very seldom have an optical rotation somewhat below the 95 degs. at 25 degs. C. required by the U. S. P., so that if putting it on the market, the inadvertent seller might get liable to a fine, though the producer of the oil had guaranteed it to be pure because he had not adulterated it, but had not become aware of its somewhat abnormal features. It would therefore, only be a just demand that if the standards of the U. S. P. are to remain in force also for the general trade, the new edition now in preparation should widen the limits of requirements so as to include all the figures which have been observed to occur with articles of undoubted purity.

A still more troublesome state of affairs started when the government began to exclude certain oils from importation because they did not correspond to certain preoccupied opinions which were not based upon the U. S. P. rulings. Thus a few years ago all lemon oils were, by

the government, considered as adulterated which contained pinene, though it had been previously shown by various chemists that all lemon oils did contain small quantities of this substance. Today this view of the government has been modified so far that oils of lemon are considered as not adulterated with oil turpentine if they do not show the presence of pinene when tested by a special method supposed to indicate only pinene which is in excess of the quantity normally present. As the latter quantity, though always only small, varies considerably with oils from different localities, there is always a good deal of uncertainty whether or not a chemist will detect pinene in a given lemon oil, since aside from certain other weak points of the method, this depends largely on his care and skill. Looking at the matter from a practical standpoint, it would seem to me that the presence of small quantities of pinene, even if they had been added intentionally, would be of much minor quality of the oil than the naturally occurring variations of the more inportant constituents. The citral content f. i. easily varies in pure oils from 4-7 per cent., that is, to about 75 per cent. of its total quantity. The profit resulting from an adulteration of lemon oil with, say, 3 or 4 per cent. of oil turpentine would hardly be a great inducement for such a practice, and larger additions could be easily detected by the distillation test. It would, therefore, not seem justifiable to condemn an oil only upon a scant pinene reaction, as long as it stands the other tests.

Much controversy has also been caused by the citral test. As already mentioned, lemon oil generally contains about 4-7 per cent. of this substance. A citral test, to be of any value, would, therefore, have to be very accurate, as f. i. the addition of 5 per cent. of a foreign oil would lower the citral content only by 0.2 per cent. This figure is about the lowest limit to which parallel tests made after the best methods by an experienced chemist will agree, most methods leaving a much larger range of uncertainty. A relatively still greater uncertainty prevails regarding citral determinations in lemon extracts, for which the law requires a citral content of 0.2 per cent., which is to be determined colorimetrically. Now this determination like all other citral assays so far published, is based on a typical aldehyde reaction which is not given only by citral, but is influenced by a multitude of other substances which may be present, and which are liable to completely vitiate the result. Under these circumstances the request of making a citral determination in a commercial product puts the analyst into a rather awkward position, as he can never be sure about how his results will compare with those of another chemist. For these reasons I beg to say, though I may be considered a bad heretic in this matter, that I do not believe in the value of citral determinations at all, for the following summary reasons: (1) because the citral content varies too much in natural oils; (2) because oils which make the finest and strongest extracts are by no means always those with the highest citral content; (3) because we have no method by which citral alone and not all kinds of other substances which may be present can be determined accurately, and (4) because citral is an article of commerce and any deficiency in citral in oils and extracts could easily and cheaply be brought up to any standard by the addition of citral, of which the whole content in one pound of lemon oil would cost only about 12 cents. Any harassing of extract makers regarding the citral content of their products might, therefore, only lead them to the addition of synthetic citral, which would be no less an adulteration than the addition of any other constituent of lemon oil.

But, to sum up, is there really such an urgent need for testing lemon extracts, whether or not they come up to a more or less arbitrarily fixed standard? I am neither a dealer in lemon oil nor an extract manufacturer, and have therefore no business interest in this question, except that of an analyst who has often worried his brains about giving an honest and impartial opinion regarding a disputed extract; but it seems to me that the government is going unnecessarily far in its guardianship of public welfare as far as these extracts are concerned. In their practical use, these extracts have hardly any physiological effect at all, and are merely intended to impart an agreeable flavor; they rank in this respect with perfumes which likewise appeal only to the sense of smell; in short, they might be classed as condiments. It is certainly perfectly right if the government exerts a strict control over extracts put on the market, regarding their freedom from all harmful ingredients, like wood alcohol or poisonous colors, or to get after manufacturers who make obviously false statements on their labels, but otherwise the government might well let the public decide for themselves what formulas and brands of such extracts they like best.

"EXTRACT" AND "FLAVOR"*

A Question of Definitions and Technical Distinctions

By CHRISTIAN BEILSTEIN, of the Dodge & Olcott Co., New York

The Department of Agriculture in Circular No. 19 defines a flavoring extract as a solution in alcohol of the sapid and odorous principles derived from an aromatic plant or parts of the plant; and the significant addition is made that such an extract "conforms in name to the plant used in its preparation." In an enumeration of such extracts immediately following this definition the first is "almond extract" which is described as the flavoring extract prepared from oil of bitter almond and containing a stated percentage of that oil. Let us examine a little more closely the raw material here prescribed.

In the large essential oil factories of Europe, the kernels or seeds of peaches and apricots, after having been deprived of their fixed oils by expression, are subjected to a process of fermentation, and from this fermented residue is distilled an essential oil which has a pronounced flavor. Now from the departmental definition it would be supposed that if this aromatic essential oil, say of the peach kernel, were properly dissolved in alcohol, the product obtained should be called extract of peach; and similarly that the alcoholic solution of the oil derived from the apricot kernel ought to be labeled extract of apricot. But, is this so in fact? Nothing of the sort. If you offered for sale a preserved peach under a label describing it as an apricot, or vice versa, you would violate the food law. But the extracts made from parts of these two different fruits as stated, are legally designated by one and the same name; and that name is neither peach nor apricot, but—*almond*. Strange as this may seem to the unfamiliar observer, the explanation is simple enough. It happens that the essential oil distilled from the peach kernel is practically the same thing in character and quality as the corresponding product from the apricot kernel, and both are substantially identical with the essential oil obtained from the true almond fruit. All three have the distinctive flavor which is universally associated with the almond, and both the compilers of the pharmacopœia and the author of the de-

*A paper read at the Extract Convention.

partmental regulations gave this fact official recognition, the definition of oil of bitter almond in Circular No. 19 being "the volatile oil obtained from the seed of the bitter almond, the apricot or the peach." We have then here a clear case in which a flavoring extract is held to conform to the requirements of the law even though it was not extracted from the source plainly and unqualifiedly stated on the label.

Now, take another case. By a simple process of distillation we obtain a highly aromatic essential oil from the leaves of the shrub known to the botanist as *gaultheria procumbens*, but popularly called wintergreen, checkerberry, teaberry or some other of the variants of which one botanical index enumerates not less than twenty. By exactly the same process we distil from the bark or the small branches and twigs of the common sweet birch tree another essential oil which in its chemical constituents and physical characteristics and particularly in the distinctive quality of its odor and flavor is practically identical with the product from gaultheria. Just as the oil of bitter almond and the oil of peach kernel both consist, all but a small percentage, of benzaldehyde, so the oil of gaultheria and the oil of sweet birch are similar in that each consists almost entirely of the aromatic principle methyl salicylate. This aromatic substance methyl salicylate, moreover, is made in perfect purity by a synthetic process; and this product for all practical purposes is not distinguishable either from the gaultheria or the birch oil. The United States Pharmacopœia says that for flavoring purposes these three materials may be considered identical and may be used interchangeably. But if they are so used, may an article flavored with birch oil (to say nothing of the methyl salicylate) be labeled "wintergreen" as the peach and apricot products are permitted to be called "almond"? The answer is, No, it may not. Although the flavor is the same; although the flavoring materials are chemically so closely similar that no chemist has up to this time been able to discover any satisfactory method of distinguishing the one from the other; although the flavor has always and universally been known and recognized by the name wintergreen and by no other name despite the fact that not five per cent. of the material was derived from gaultheria—notwithstanding all this, the administrative rule is that the name "wintergreen" may not be used, unqualified, unless the flavoring material was actually obtained from gaultheria. And, although there is no present purpose of dwelling on the point, the remark may be here added that the result of the rule in actual practice is pretty much the same as if some governmental department were to proclaim a rule that in certain circumstances a natural watercourse shall flow uphill and not downhill.*

Again, under the food law regulations, the term "Vanilla Extract" has been set apart and appropriated for use only with a product made exclusively from vanilla beans. We have here a flavoring agent extracted from the material from which the flavor takes its name. Why or how it happened to take its name from that material does not appear to be important, but it is probably safe to assume that it was because the flavor was first found in or obtained from that material. Now, suppose that co-existent with this material we have other materials which, although known by different names, yield a product which has exactly the same flavor as that derived from the vanilla bean, just as we found to be the case in the almond series and in the wintergreen series of materials. And suppose we actually produce this peculiar flavor from one of these materials—are we permitted to call the flavor so produced by the same name as that given to the product from the vanilla bean? The answer once more is, No. But, assume further that we transplant the vanilla bean, say the Mexican variety, from its original habitat to some new region, for instance to the Tahiti Islands in the Pacific Ocean. The plant flourishes and produces fruit; but owing to the influence of the different soil and possibly to general climatic conditions, the flavor of this fruit, after the plant has become naturalized and acclimated, changes so that it is no longer the true flavor which is so well known as vanilla. The plant, however, and its fruit have not changed otherwise and still remain vanilla. Now you make an extract from this fruit. It is obtained from vanilla beans—of that there can be no question; but it has not that distinguishing quality which alone is known as the vanilla flavor. How are you going to label this product in the light of the definition that a flavoring extract conforms in name to the plant used in its preparation? We shall return to this subject a little later.

Meanwhile, the writer cannot resist the temptation to interpolate a collateral example or two furnished by the administration of the Tariff Act, which although not strictly relevant to our immediate question will illuminate the general problem of queer definitions and strange technical distinctions:

Under the old Dingley law, oil of orange like its companion products oil of lemon and oil of bergamot, was specified by name in the free list. The first published draft of the Payne bill found this oil with many others missing from the free list and not specifically provided for. The presumption therefore was that it was to be assessed at 25 per cent. ad valorem as an unenumerated essential oil, and such was undoubtedly the original intent of the authors of the Payne bill. Subsequently in the Senate bill the article was specially provided for at 25 per cent ad valorem and in the course of the pulling and hauling which followed, this provision was changed to 50 per cent ad valorem. When, however, the bill finally emerged from the conference committee, oil of orange had again disappeared entirely from the schedules of enumerated articles. The agitators in favor of a duty on the oil had discovered a by-way to their object. Paragraph 21, dealing with "Ethers" and carrying this term as a caption, a legacy from the old tariff, contained the phrase, "fruit ethers, oils and essences." The "oils" or "fruit oils" here covered, had always been well understood to be the compounded flavoring ethers commonly known by trade custom as "fruit oils" before the food law went into effect. But under the latter law this use of the term "fruit oils" had to be discarded because the materials in question were in fact neither oils nor made from fruit; and in the Senate bill the word "oils" was

*NOTE: Since the preparation of this paper there has appeared a preliminary draft of proposed new standards for food products, prepared by a committee of the Association of Agricultural Chemists. The suggested new definition of "oil of wintergreen" is "the volatile oil distilled from the leaves of gaultheria *or the bark of Betula lenta* [Birch]." This is sound common sense and is what the honest dealer and consumer have been contending for. There should not be a moment's hesitation to accept the proposition).

dropped from the phrase just quoted from paragraph 21, leaving it to read simply "fruit ethers and essences." Now, however, the proponents of the orange duty quietly had this word restored at the same time that the name oil of orange was eliminated from the schedules. The friends of the article were not watching the "Ethers" paragraph and, assuming that as an unenumerated essential oil it would be dutiable at 25 per cent under paragraph 3, were satisfied. They had simply been hoodwinked by a cheap trick, not unworthy of our edifying system of constructing tariff schedules; and after the enactment of the law the interests for whose "protection" this bit of jugglery had been performed, saw to it that the customs officials did not overlook the alleged fact that paragraph 21, providing for "fruit oils," covered oil of orange since that oil is obviously made from a fruit. The result is that this popular material which is not, and never has been, produced commercially in this country, is held at customs to be dutiable at the specific rate of one dollar per pound, the equivalent of over 70 per cent. ad valorem; and upon the importer rests the burden of showing that oil of orange is not the kind of a "fruit oil" which was formerly classified with entire propriety under the head of ethers. To the practical man, familiar with the history of the question, this seems ridiculously obvious; but through the failure or rather refusal of the administrative officers of the government to clear the matter up without legal controversy in the interests of simple justice and fair dealing, thousands of dollars of the consumer's money will have been wasted before the litigation now under way is completed even though it be successful.

And just one more: Under a long line of Treasury rulings and judicial decisions based upon Section 19 of the Customs Administrative Act of June 10, 1890, the principle has become well settled that containers which are the usual and ordinary coverings of the merchandise imported in them are dutiable at the same rate as their contents if such contents are dutiable at an ad valorem rate; whereas, if such contents are free or pay a specific duty the containers are free. In paragraph 151 of the Payne-Aldrich Tariff, completely hidden away among such commodities as iron and steel tubes, pipes, flues and stays, cylindrical furnaces and the like, we find an innocent looking clause, which reads as follows:

"Cylindrical or tubular tanks or vessels, for holding gas, liquids or other material, whether full or empty, 30 per centum ad valorem."

Just how this provision came to be so carefully concealed in this place need not now concern us. In any event the customs officials found it and, whether prompted from the outside or not, decided at once that the duty was applicable to the large iron drums which are so extensively used for glycerine and various bulky essential oils. Had they stopped here, no fault could be found and the question would be a simple one for the proper authorities to decide whether the clause in paragraph 151 is such an express provision of law as is necessary to take the drums out of the rule under Section 19 of the law of 1890. But, having concluded that "cylindrical or tubular tanks or vessels" meant in any case the large iron drums, the customs department proceeded to extend and expand the construction so as to include other metal containers not specially provided for in the act; and after more or less uncertainty there emerged the rule now in operation, under which all non-enumerated metal containers, regardless of size, are held to be dutiable under paragraph 151 so long as they are cylindrical in form. Containers of the same metal, however, which are not cylindrical, although they may come from the same source and carry the same class of contents, are held not to come within the meaning of the paragraph mentioned. Thus if you import an article on the free list, say oil of sweet almond, in square cans, the containers come in free; but if the same oil be packed in round cans the containers pay a duty of 30 per cent ad valorem. We therefore have here the extraordinary spectacle of a tariff provision under which, as to whether a given article is free or dutiable, the ultimate and only test is whether the tin or other metal of which it is made *is bent in one way or in another.*

Now let us turn from this review of existing conditions to the question of what there is to be said about them. Take again the typical case of vanilla. The departmental definition of vanilla extract is, an extract prepared from vanilla beans. It says nothing about vanilla flavor. In the earlier cases against manufacturers prosecuted for violation of the food law in respect of vanilla preparations this definition in Circular No. 19 appears to have been set up as the standard under the statute. Later on, however, this position was modified and we find in the published notices of judgment the simple allegation that "vanilla extract, *or flavor*, as recognized by reliable manufacturers and dealers, is the flavoring extract prepared from vanilla beans and contains the soluble matters from not less than 10 grams of the vanilla bean to each 100 centigrams."

Disregarding the vague, inconclusive and unsupported reference to "reliable manufacturers and dealers" we find here a specific proposition to expand the term vanilla extract so as to make it inclusive of and co-extensive with the term vanilla flavor. In other words the two terms are treated as being synonymous. Let us look a little under the surface of this proposition. What does the word "flavor" mean? We will concede that the term "extract of vanilla" imports only one thing, namely a material extracted from vanilla and that there is no occasion to quarrel with the official appropriation and limitation of that unqualified term to a product derived from vanilla beans and from nothing else. But is the vanilla bean the only source of that distinguishing quality which we know as the vanilla flavor? Without attempting to answer whether in point of fact this is or is not so, let us go back to our earlier assumption that it is *not* so; and for the purpose of our question we shall then proceed upon the hypothesis that the distinguishing quality referred to may be derived from sources other than the vanilla bean. From these other sources, consequently, we produce a material which affects the human sense of taste in exactly the same manner as does the vanilla bean extract. Now this effect upon the sense of taste constitutes a flavor. We cannot well formulate the proposition in any other way without circumlocution, because the word flavor happens to be practically the only word in the language by which this effect and the agent which produces it are known and by which they are currently and accurately designated. Again, the

peculiar and distinguishing quality of this particular flavor has always and invariably been known and described by the word vanilla. The language contains no other word by which it can be described. If thus we have a material which produces upon the sense an effect which we know as a flavor and which we cannot conveniently call by any word other than the word "flavor"; and if the distinguishing quality of this flavor is the quality which we know as "vanilla" and which we can call by no other name than vanilla because there is no other word by which it is recognized, how then, purely as a matter of language, can we convey the idea from mind to mind except by means of the term "vanilla flavor"?

We have conceded that the term "vanilla" standing by itself means vanilla flavor made from vanilla beans and from nothing else; but does the term "vanilla flavor" similarly have that limited and restricted meaning? Obviously not from the very assumption of our hypothesis that this particular flavor can be and is produced from sources other than the vanilla bean. In other words if our premise be granted, then the term "vanilla flavor" is necessarily broader and more inclusive than the term "vanilla." It comprehends the flavor made from vanilla beans and also the flavor having the same distinguishing quality which is derived from other sources.

What then about the exclusive appropriation of the term "vanilla flavor" to a preparation from vanilla beans? Is such an appropriation within the warrant of the law; and even if it be, is it always right and just, and is it always necessary? The first of these questions must needs remain unanswered for the present. The mere fact that a purely ministerial officer of the Government answers it in the affirmative by his acts may raise a presumption that such affirmative is correct; but this presumption certainly is not conclusive, even though such officer may be in a position to give his decision the practical force of law. The question itself will not be conclusively answered until, after a square presentation to a court of competent jurisdiction, it shall have been finally determined and adjudicated. That such an adjudication is highly desirable will be generally agreed, as the question presents an issue of great importance, on one side of which we frequently meet a clearly defined policy of the administrative officers to make such appropriations whenever expediency suggests it, while on the other we have certain general rules of legal construction in respect of the meaning of words in the vernacular language, which may be traced all the way from Blackstone to the western judge whose *obiter dictum* in a recent case tersely formulated the underlying principle to the effect that "Neither the Secretary of Agriculture nor the public generally can change the meaning of the words 'extract' and 'flavor.'"

But, to repeat, even if a bare warrant of law were established for such special appropriations—what about the fairness and justice and necessity of the practice in many cases? The contentions in support of it are of an obvious character and in a majority of instances they are doubtless well founded; but, again, are they so invariably? Let us examine one or two of them which are such as to enable us in doing so to cover a good part of the whole ground. The complaining manufacturer is told substantially this: You are not prohibited from using the words "vanilla flavor" on your label covering such a preparation as we have been discussing. You must, however, print conspicuously with them the word "imitation," or perhaps some other word of like import. And, it is added, you have no cause to complain of this requirement. Your product *does* imitate the flavor of the vanilla bean, and it therefore *is* an imitation. When the consumer asks for vanilla he expects and has a right to expect something made from vanilla beans; and if instead you give him an imitation of such a material you are deceiving him unless you tell him that it is an imitation.

Is all this strictly true? Is the production or reproduction of a substance, or a quality in a substance, from a source other than that from which it was first made always an imitation in the frequently derogatory sense in which that word is popularly employed? Is oxalic acid made from wood sawdust an "imitation" because not made from the material from which it was originally obtained and after which it was named? Does synthetic benzoic acid have to be labeled "Imitation"? Is not extract of almond made from peach kernels an imitation; and if it is right and proper to label this almond extract without the word "Imitation," why not some others?

The man in the street, the woman in the kitchen, everybody, knows exactly what is meant by the names apple, peach, orange, pineapple and the like. The meanest intellect undoubtedly associates the idea of lemon flavor, or pineapple or peach flavor immediately and directly with the fruits themselves. It is not unreasonable therefore to assert that when the ordinary consumer asks for a prepared flavor of one of these descriptions he actually has in mind something made from the fruit itself whose flavor he wants. But will anyone pretend that the same thing is true of vanilla? Those in the best position to know are familiar with the fact that the general public is almost completely ignorant about the vanilla bean. Even among the intelligent and experienced it is unusual to find an individual who has more than a hazy idea of the source of the vanilla flavor or who can recall having ever seen a vanilla bean; and in probably a majority of even these exceptional cases what the individual thought was a vanilla bean was in fact a tonka bean. The consumer then has known the term "vanilla" only symbolically. It has meant to him the name of a common and familiar flavor, nothing more. He has not known any other word or term to designate this flavor; and he has known practically nothing and cared less about the source from which that flavor was derived. Now, if all this is so, does it seem reasonable to say that when this consumer asks his dealer for a ten-cent bottle of "vanilla" he must be conclusively presumed to want a material prepared from vanilla beans and from nothing else?

The element of deception is not involved so far as the consumer is concerned. With him it is a question solely of the identity of the flavor desired; and our premise presupposes this question to have been covered by our production of that which, by the controlling test of the sense of taste, is universally known and immediately recognized as the flavor of vanilla. On the other hand the element of possible inferiority in the sense of unwholesomeness does not enter, as this may be assumed to be fully within the control of the ad-

ministrative authorities. Unwholesome materials may be and frequently are employed by the unscrupulous in the production of vanilla flavor from vanilla beans as indeed they might be in our hypothetical product; and in the case of the latter no upright manufacturer, employing only substances which themselves enjoy the highest scientific and official recognition as proper and wholesome food materials, will object to a requirement that he state upon his label the component ingredients of his vanilla flavor.

More might easily be said upon this subject, but the limitations of the present paper forbid. Beside, this is not a plea in aid of any particular material or class of materials. The examples under the Food and Drugs Law were selected as typical of a class of questions which nearly four years of experience in the administration of that statute has failed to set at rest. No one now doubts that this legislation has exerted a tremendous force in the right direction. But it would be vain to pretend that the administration of the act has been brought, or that within so short a time it could have been brought, to a state even approximating perfection. It would be equally idle to expect perfection in the future and nothing of the sort will be expected or asked. What may fairly be asked and expected, however, is that a broader and more practical, common sense spirit be infused into the administration of the law at some points where this quality has been sadly lacking. What may reasonably be objected to and even resisted is a deplorable tendency too frequently in evidence to take a narrow, strained and scholastic view of the intent and meaning of the statute —a tendency that will prevent the doing of substantial justice in order that a mere laboratory process or conclusion may be saved from discredit.

That the food and drug laws of some of the individual States are administered along lines that frequently verge upon sheer bigotry is notorious and it would be a waste of time to collect instances for citation. And that under the federal statute, wholly aside from unavoidable questions of construction, there is often a grasping at the shadow in disregard of the substance, is undeniable. A single and rather curious illustration of this may be briefly ventured:

In a western jurisdiction an extract of vanilla was condemned, although the official chemist returned it as a normal product in which no objectionable quality or defect *per se* could be found. It was held to be misbranded because the label described it as "highly concentrated" vanilla. But what does "highly concentrated mean"? Is this not in any reasonable view a clearly relative term? It certainly does not assert or necessarily imply the *highest possible* degree of concentration. A normal substance which at the same time is highly concentrated is far from inconceivable; and in point of fact there seems to be ample ground for the contention that the present standard extract of vanilla is such a substance. Before the food and drugs law the standard extract of vanilla by general custom was made in the proportion of eight (8) ounces of vanilla bean to the gallon. Under the statute the strength was increased to about thirteen (13) ounces to the gallon, because the department had seen fit to recognize officially, not the standard established by long usage and practical expert knowledge, but the pharmacopœia formula by which the druggist was expected to make "tincture of vanilla," a quart at a time, to be used for flavoring medical prescriptions. Now, did not this increase of over fifty (50) per cent. in the strength of extract of vanilla make the new product at least relatively a "highly concentrated" extract? If any argument were needed to support this point, a pretty good one seems to be furnished by the suggested new standard of the committee of official chemists. Under this new standard for extract of vanilla a minimum vanillin content of but five hundredths (0.05) per cent. is called for in what presumably would be designated a normal product. Yet the Government chemist reported in the condemned extract not less than eleven hundredths (0.11) per cent. and that was the reason why he classified the extract as a merely normal preparation which it was wicked to call "highly concentrated." But the question we are here propounding does not seem to have been raised in the case cited. The defendant, possibly because he was also charged with misstating the name of the manufacturer, took the usual short cut, pleaded guilty and paid his fine.

Now does not all this constitute the strongest possible plea for the application of a little more practical every-day horse sense, a little more effort to enlarge the official view beyond the cramping confines of mere formulas, a little more human forbearance and tolerance on the part of those who are charged with the administration of a beneficent but tremendously far-reaching law? Not a particle of consideration is here asked for the wrongdoer from deliberation or recklessness. But he is far from being the only one to come into collision with this statute. The honest manufacturer is compelled to construe many of the vague and sweeping provisions of the law himself. In theory he has the same right to maintain his interpretation as the ministerial officer his. But, "government by administrative process" is a sign of the times. The official is in a position to give his construction the force and coercive effect of law itself, while the statute leaves the citizen without any substantial relief or remedy whatever in an affirmative sense. He cannot, if the two are irreconcilable, match his construction before a judicial tribunal against that of the official except by getting himself criminally indicted for a violation, in which event the chances will overwhelmingly be that the case will be disposed of one way or the other on some legal technicality wholly unconnected with the real question he is so anxious to have decided. Perhaps this was, and is, and will continue to be unavoidable, but that is all the more reason why in those numerous cases where there is an honest difference of opinion and plenty of room for it, the official attitude should be less arbitrary, less inflexible, less uncompromising and less tenacious of preconceived ideas and even prejudices than, unfortunately, it too often is found.

Coco-Tar Products Co., New York; manufacture and deal in oils, toilet articles, etc.; capital $10,000. Incorporators: Chas. H. Schuman, No. 289 Broadway; Octave B. Herbert, No. 165 Broadway; Abraham Ostrow, No. 617 E. 181st Street, all of New York City.

Richey-Shuman Co., Chicago; capital, $6,000. Incorporators: Frank W. Richey, Frank G. Shuman, Frank C. O'Day and F. W. Proudfoot.

THE ANALYSIS OF ESSENTIAL OILS*

By FRANCIS D. DODGE, Ph.D.

I have been asked to address the convention on the subject of Essential Oils.

This is rather an extensive field to enter upon in the short time available. Several fat volumes are already in print, loaded with more or less reliable information, and it seems hardly appropriate to take up your time with details. Instead, I have thought it worth while to discuss in a general way, the valuation of the oils, and the practicability and limitations of the methods of analysis.

The tendency at the present time toward a more rigid official supervision and control of all products intended for human consumption, whether foods, drugs, or condiments, is a matter which interests alike the manufacturer and the consumer. But the conditions under which this control may be effective, and satisfactory, are not as yet very clearly established, or indeed realized.

In many branches of industry, as is well known, the advantages of chemical analysis for the control of raw materials, and of finished products, have been increasingly appreciated, and, indeed, the chemist is now an indispensable adjunct, where formerly his services were seldom called for.

We need not go far for examples.

A copper smelter wishes to valuate a certain ore; the chemist supplies the data by extracting the copper from a sample of the ore, and weighing the pure metal so obtained. This is exactly the information which is wanted, for the percentage of metal establishes the value of the ore.

Or, in the iron industry, specifications are now drawn calling for metal of very sharply defined composition, and the iron master, by careful chemical control, can supply surprisingly uniform material.

Passing to the industries known to the chemist as organic, we find similar efforts for analytical control, with the analyst often very hard put to it to accomplish his part. The direct and accurate methods of inorganic analysis are in general no longer available. Indirect methods must be employed, the limits of accuracy widen, and sources of error multiply.

Take, for example, raw sugar; what the refiner wants to know is the percentage of available pure sugar. But the chemist does not attempt to separate the pure sugar from the small sample. That would be a tedious, impracticable operation. Instead, he utilizes the polarimeter, employing an indirect method, and with suitable corrections and checks, arrives at a result which may not be perfectly accurate, but which answers the purpose.

The amount of citric acid in lemon-juice, of tannin in bark extract, of glycerine in soap-lye, of alcohol in crude spirits, morphine in opium, starch in corn-meal, pepsin in pigs' stomachs, are all determinations which the manufacturer must have, and the chemist must furnish to the best of his ability.

In all these instances, we see that the value of the material is determinable solely by analysis.

But when we consider the application of chemical methods for the valuation of the essential oils, a quite different situation confronts us. As raw materials, they are of limited interest to a few manufacturers, who prepare menthol, thymol, vanillin, and similar products. But the preponderating use is as aromatic or flavoring material, and their relative suitability for this purpose naturally establishes their value.

Now, the methods of judging the values of essential oils are, of course, familiar to you, as large consumers of such material.

From a given oil we expect certain results in aromatic or flavoring value, and the practical way to estimate this is to try the oil under the conditions in which it is to be used.

The expert will smell or taste the oil, in comparison perhaps with a type sample; or suitable dilutions are prepared, and so examined, or possibly small lots of finished goods are made up, and submitted to the connoisseur.

By these or similar methods, we arrive at a rational estimate of the value of the oil.

But this procudure is not without its advantages.

There enters into too much of what the astronomer terms "personal equation." Experts are not likely to agree absolutely in their valuations. The manufacturer or dealer cannot contract to furnish oil which will satisfy every trained nose or palate, nor can the consumer, or the inspection authorities, express their requirements in definite binding form.

Consequently there arises a more or less urgent demand for a practical method of grading or valuating the oils, in which the expert may be less indispensable, and the results expressible in percentages, or other data, which may serve as the basis of commercial contracts, or of official standards.

Naturally the chemist is consulted.

Now, he is not supposed to concern himself with such aesthetic properties as aromas or flavor. The ultimate composition of any material is his field of operation, the balance and burette his tools, and it would appear probable that his results would be satisfactory and conclusive.

But the volatile oils present problems of peculiar difficulty, as I shall endeavor to show.

The history of their investigation forms one of the most modern chapters of chemistry.

Twenty-five years ago, an essential oil was deemed a simple matter. If it deposited crystals on standing or chilling, these were termed the "stearoptene," and the mother-liquor the "elaeoptene," and further explanation was for the time unnecessary. In general, the stearoptenes could be easily purified and identified. Thus we were early acquainted with camphor, borneol, thymol, menthol, anethol, etc.

But for the investigation of the elaeoptenes new methods had to be devised, and it is due to the untiring industry of Wallach, Tiemann, von Baeyer, and their pupils, that we have gradually arrived at more comprehensive knowledge of the constituents of the oils. Thus, we were made acquainted with geraniol, the major constituent of oils of rose and geranium; linalool, in bergamot and lavender; citral, in lemon and lemon-grass; terpineol, eucalyptol, citronellol, eugenol, safrol, and a host of other compounds, and the idea became prevalent that these pure substances would reproduce the characteristic aromas in a pre-eminent degree, and that they would, in consequence, be of great value to the perfumer.

This, however, proved to be an erroneous conception. Eugenol was not an improvement on oil of cloves, nor could safrol satisfactorily replace oil of sassafras.

The purer these constituents could be obtained, the less valuable, in a way, they appeared to be; the truly "essential" portion of the oils seemed to be missing, and the composite nature of their aroma began to be recognized.

The discovery, in 1894, of methyl anthranilate as an important ingredient of neroli and other oils, the occurrence of indol, skatol, and pyrrol bases in various oils, led us a step further, to the realization indeed of the fact, that minute amounts of substances, by themselves even offensive in odor, may be indispensable ingredients of our most valued perfumes.

The further study of the oils, in later years, by the most refined analytical methods has repeatedly demonstrated their complex nature, and we are obliged to admit, not only that the characteristic odor or flavor is the resultant

*A paper read at the Extract Convention.

of many individual ones, but, that in most cases, the really valuable ingredients are the ones we are least able to isolate, identify, or estimate.

Now, the difficulty in attempting to valuate an oil solely by chemical means, becomes apparent. We may determine the larger constituents with more or less precision, but the characteristic, valuable, indispensable part is often unknown to the chemist, or beyond the reach of his methods.

A few examples will illustrate this.

If we submit samples of oil gaultheria, oil birch, and synthetic methyl salicylate, to the chemist for valuation, we may learn that gaultheria contains 93 per cent., birch 96 per cent., and the artificial product 98 per cent. of pure methyl salicylate.

Evidently the latter is the best, as regards purity, yet the confectioner has a different estimate as to their quality. The small percentages not methyl salicylate, as to which the analyst offers no opinion, apparently play quite a role. In the case of the natural oils, they are certainly of value, while in the synthetic product, they are worthless, or even objectionable.

Or, compare oil of bitter almond, freed from prussic acid, with synthetic benzaldehyde. To the analyst, these appear almost identical, but the expert perceives a difference and prefers the natural product. In fact, careful examination shows that the almond oil contains a minute amount of aromatic substances, not benzaldehyde, which sensibly modify the aroma and flavor.

We see, then, that the value of an oil cannot be considered as depending on the proportion of any one, or two, ingredients. Corresponding with its elaborate composition, its effect on the organs of sense may be compared to a musical chord, or a multi-colored image, and while this complex effect is undoubtedly a direct result of the composition, we are unable as yet to correlate them.

Let us consider further two of the oils, which probably interest you most directly—oils of lemon and orange.

As regards oil of lemon, we know at present that it contains at least 15 constituents; probably as many more await recognition.

Of these, the terpenes compose about 90 per cent. of the oil, but are of little aromatic value, serving merely as a "vehicle" for the truly "essential" ingredients.

The latter may be divided into two groups:

1. The aldehydes, including citral.....4-6%
2. The alcohols and esters, and other compounds....4-6%

As to the relative importance of these, it is rather hard to judge.

Citral is certainly indispensable, but citral alone is not "lemon." The others are all necessary, compounded according to Nature's formula.

Now, the chemist can tell with fair accuracy the percentage of aldehydes in the oil, and this is a useful result.

A good oil contains 4-6 per cent.; if less or more, it is abnormal, and hence suspicious.

As regards the other ingredients, they are beyond the reach of practical analysis.

For impure or adulterated oils, special methods have been devised, but if an oil is "normal," the decision on the quality must be left to the expert.

Oil of orange resembles lemon in composition. The terpene content is higher, the aldehydes 1-2 per cent.

The optical rotation is remarkably constant at + 95 degs. to 97 degs., and forms a very useful check on the purity.

The characteristic aroma is composite like lemon, the aldehydes playing an important part.

The most dangerous adulterant appears to be the orange terpenes, obtained as a by-product in the manufacture of concentrated oils, and their detection is a difficult problem.

In conclusion, I would emphasize again that the terms purity and quality, as applied to the oils, are really different conceptions.

The purity of a chemical compound means in general the degree of its approach to homgeneity, which can be determined by analysis. But the oils are never homogeneous, and their quality has no relation to homogeneity.

Or, by purity we may mean authenticity; in other words, the preparation from pure or homogeneous raw material

But quality is not dependent on authenticity. Oils of equal purity as regards source may vary enormously in value, and indeed an impure oil may sometimes be of better quality than a strictly pure one.

For example, an oil of cinnamon-bark, low in aldehyde, may be, and possibly often is, improved by the addition of aldehyde from other sources; or an oil of bay, deficient in phenols, as frequently happens, may be brought up to the standard by judicious admixture of eugenol obtained elsewhere.

One of the principal difficulties confronting the analyst is to distinguish between natural variations and intentional adulterations.

A pure oil has been elaborately compounded in Nature's laboratory, but often we cannot be sure that a human hand has not assisted in the final result.

This is the source of endless trouble to the compilers of pharmacopœias, for, to include all pure oils, the limits of the various tests must be made rather wide, and this tends to defeat their purpose.

We perceive, then, that the art of analysis as applied to the oils, has not yet reached that point of accuracy which will warrant the chemist in expressing an opinion as to the purity or quality of an oil, based on analytical data alone.

He may establish, as the result of numerous analyses, certain requirements or limits for a normal oil, but he can seldom be absolutely certain, that an abnormal sample may not be a pure oil with exceptional properties, or, on the other hand, that an apparently normal oil may not be one of inferior grade, "doctored" to meet his requirements.

It is quite a safe statement that no tests or combination of tests have yet been arranged which will absolutely guarantee the purity of a given sample.

As to quality, this remains, as before, to be judged by practical methods.

Soap-cooling frames. A. G. Bloxam, London. From A. Jacobi, Darmstadt, Germany. Eng. Pat. 9590. Apr. 22, 1909.

RELATIVE change in the position of the cooling plates with respect to the mould frames, is prevented by constructing such plates with projections, or the like, which engage with corresponding cavities in the mould frames. These projections may consist of pieces fixed to the edges of the plates and extending beyond the cooling surfaces, or of a surrounding fillet, or they may be upon the edges of the faces of the plate. It is stated that in this manner mould frames, having comparatively thin walls, may be used without danger of bulging.

Perfume: A solid ——. A. Stapler. Fr. Pat. 406,577. Aug. 28, 1909.

A PERFUME which remains solid even at relatively high temperatures, is prepared by employing artificial musk as a base, and incorporating with it various other crystalline or liquid perfumes. The mixture is melted and cast in moulds, a small quantity of some material, such as magnesium or calcium carbonate, which is capable of absorbing oils, being included in the mixture, if necessary, to prevent the exudation of the liquid perfumes.

ANISYL ALCOHOL AND ANISALDEHYDE IN TAHITI VANILLA BEANS. H. Walbaum. Wallach-Festschrift, 1909, 649-653. Chem. Zentr., 1909, 2, 2181.

From an ethereal extract of Tahiti vanilla, after removal of the vanillin by means of caustic soda, a pale brown oil with a pleasant characteristic odor was obtained by distillation with steam. This oil was found to consist mainly of anisyl alcohol, together with some anisaldehyde.

TRADE NOTES

Schedules in bankruptcy of the J. F. Reichard Co., New York, manufacturers of soap, show liabilities of $22,245, of which $20,570 is unsecured, and assets of $38,520.

The entire assets of the August Kern Barber Supply Company, St. Louis, Mo., were recently sold under the hammer for $42,500 to C. S. Meredith, former secretary of the company and former receiver, and C. D. Comfort, former vice-president. The purchasers will incorporate and reorganize the company. The trustee's inventory was $91,000. There was an $18,000 equity in the 4-story building at Twenty-second and Chestnut streets. The stock, fixtures, machinery, mules, wagons and all other property was inventoried at $39,000, while bills receivable and accounts totaled $24,000.

William E. Scott, proprietor of a soap factory in Poughkeepsie, New York, closed up his plant May 31 and went to Europe for a vacation. He will be away two years. The business was started by David Scott, grandfather of Mr. Scott, in 1852.

Mr. J. S. Richmond, of Van Dyke & Co., New York, has just left for a trip to the Middle West. Early this month he completed a successful trip to the Pacific Coast.

Mr. O. Tollagsen, 1612 Girard street, Chicago, Ill., is a manufacturer of a patented collapsible tube closing machine which he is advertising in this issue. His machine was introduced only last January, but has already met with a good reception. Mr. Tollagsen also makes collapsible tubes—plain, decorated and embossed—aluminum boxes, jars, etc.

The Union Paper Co., 842 Washington street, New York, are advertising their "Superior" Talcum Cans, mailing cases for liquids, mailing tubes, etc., in this issue. They were established in 1876, and their business has had continuous and substantial growth.

We are advised that on May 1st, the firm of Chuit, Naef & Co., Geneva, Switzerland, were succeeded by M. Naef & Co. Dr. Philippe Chuit, the senior partner and chief chemist, has withdrawn in favor of Mr. F. Firmenich, who has been with the firm for ten years.

Dr. Chuit will continue as consulting chemist and chief of the scientific research department. The business was established early in 1895 by Dr. Chuit, and in November of that year was joined by Mr. Martin Naef, and thus the house of Chuit-Naef was born. At first vanillin and a few other synthetic perfume materials were made, but the business has grown to such an extent that the list now numbers over 150 different products. Prominent in the list are violettone A, violettone B, cyclosia, oeillet, rose, jasmin, neroli, ylang ylang, dianthine, iralia, heliotropol, etc.

The American agents are Messrs. Ungerer & Co., 273 Pearl street, New York.

The thirteenth annual general meeting of W. J. Bush & Co., Ltd., of London, England, was held on May 12 last.

Mr. James M. Bush (chairman) presiding, reported that the gross profit for the year 1909 was £104,189 ($507,035), and after providing for debenture interest, expenses and directors' remuneration, making allowance for depreciation, the net profit was £27,771 ($135,147), which with the amount brought forward from the preceding year made a total of £36,918 ($179,661), to be dealt with. After deducting the amount required for dividends on the preference shares there remained a balance of £30,668 ($149,246).

The directors recommended that a dividend of 7½ per cent. per annum be paid on the ordinary shares, that £8,000 ($38,932) be placed to reserve fund, and that the sum of £11,999 ($58,393) be carried forward.

Mr. Henry Hymes, of the Hymes Brothers Co., 235 Pearl street, New York, returned on May 30 by the *Kaiserin Victoria*, from a six weeks' trip to Europe. Mr. Hymes reports that he has contracted for a large olive oil account, an announcement of which will soon be made

In this issue the advertisement of the Hymes Brothers Co. appears, in which particular attention is invited to vanilla beans, essential oils, and to the synthetic specialties of Dr. Albert Verley, Paris, France, whose American agency is in the hands of the Hymes Brothers Co.

On May 28 the receivers of the Sanitol Chemical Laboratory Co., St. Louis, Mo., were discharged under the direction of the United States Circuit Court. All litigation between the stockholders has been amicably adjusted by a settlement approved by the court. A reorganization of the directorate has been made, and Herman C. G. Luyties, former president, has been re-elected president and treasurer of the company. Mr. Hamilton Gibson is manager, and Mr. R. E. Desmond continues in charge of the laboratory. An increase of 100 per cent. has been made in the appropriation for newspaper advertising, and in every other way the company is forging ahead.

The Arabol Manufacturing Co., 100 William street, New York City, says that in summer time when pastes are liable to sour and spoil there is no more convenient and safe adhesive than its condensed paste powder. It takes up very little room to be kept in stock, it is cheaper and reaches further than common flour paste. Some boiling water or steam makes it ready for use in a minute. That it sticks, works smoothly and does not spoil the looks of the label, are other claims made.

Heine & Co., New York, are conducting a selling campaign in behalf of their products for the manufacture of non-alcoholic perfumes. They claim that by the use of their solvent ADINOL the finished perfume is truer to the flower odor through the suppression of alcohol, musk, etc., and other solvents and fixatives that serve no useful purpose in matching nature.

Promptly at fifteen minutes past noon Saturday, June 11th, under the most auspicious circumstances, the large freight steamer *Ruth,* which is being constructed at the yard of the Newport News Shipbuilding Co., Newport News, Va., for the A. H. Bull Steamship Company, was given her initial dip in the waters of the James River.

As this latest addition to the American merchant marine glided down the ways, Miss Ruth Priscilla Killeen, the ten year old niece of Mr. Wm. H. R. Killeen, the treasurer of the A. H. Bull Steamship Co., and daughter of Mr. and Mrs. E. V. Killeen, smashed the conventional bottle of wine, striking the *Ruth* fairly upon the stem, which, "Jack Tar" says, is an infallible sign that the vessel will never be in collision. Miss Ruth is the youngest but one that has ever stood sponsor for a vessel launched at the Newport News Ship Yard and her grace and winsome manner and her correct aim were appreciated by the officials and spectators. Like all other launchings of the A. H. Bull Steamship Co., this launching was entirely informal, and was witnessed only by the invited guests, including Mr. A. H. Bull, president of the steamship company, and daughter, Mr. and Mrs. Geo. S. Jellerson of Montclair, N. J., Mr. Wm. H. R. Killeen, Mr. and Mrs. E. V. Killeen, Masters Wilbur and Edwin Killeen, Miss Eva L. Kearns, Ralph Earl, Miss Alma C. Raschdorf, and Messrs. Henry Geib and Chas. Christoffers of this city.

THE "RUTH" ON THE WAYS.

THE LAUNCHING PARTY EN ROUTE TO THE SHIPYARD.

RUTH PRISCILLA KILLEEN AT THE BOW.

Immediately following the launching, carriages were provided by the Newport News Shipbuilding Company, and little Miss Killeen and her launching party were entertained at the Hotel Warwick at a delightful luncheon as the guests of the officials of the company.

The keel of the *Ruth* was laid March 17, and she was launched in 86 days thereafter—less than three months from the laying of the keel to the launching of the vessel, which is a remarkable achievement for a ship yard in this country where ships are *built* and not manufactured. The *Ruth* is built under the Isherwood system, that is, her steel ribs run longitudinally instead of vertically, which has been the custom for many generations. This new construction makes her stronger and more burdensome and at the same time of less cost than under the old way of building. The steamer is 325 feet long, and of 5,000 tons capacity.

According to Mr. Edwin H. Burr, manager of the American branch of Roure-Bertrand Fils, Grasse, France, and Justin Dupont, Argenteuil, France, the difference between an agriculturist and a farmer is easily explained. "A farmer," says Mr. Burr, "is a man who makes his money in the country and spends it in the city; while an agriculturist is one who makes his money in the city and spends it in the country." Mr. Burr has a model farm at Red Bank, N. J., but as he seems to be making good as a gentleman farmer, as well as business man, his own case seems to be an exception to the definition. Mark Twain used to say that a gentleman farmer was one who made two blades of grass grow where three grew before, but the gentle humorist's classification is also faulty in this case, so we shall not attempt to be more specific.

Colgate & Co. are giving up their historic quarters which they have occupied for 104 years, and soon their general offices will be located in a handsome and commodious administration building in Jersey City, opposite the factory. The New York sales office will be in 199 Fulton street, a 5-story building, opposite the Hudson Terminal Buildings. The temporary offices are in 8 and 10 Dutch street where William Colgate founded the business in 1806. This record of continuous occupation by the same firm of the same ground in New York stands by itself.

Miss Helen Alexander Magnus, daughter of Mr. Percy C. Magnus, of Magnus, Mabee & Reynard, New York, was married recently to Mr. George Shortland Horton of Brooklyn. A reception followed at the home of the bride's parents, 378 Sterling place.

Dr. O. B. Wunschow, secretary and chemist of the Charles Reif Co., Chattanooga, Tenn., called on us recently. The company started business two years ago with a capital of $25,000, and is making excellent progress in the manufacture and sale of perfumes, toilet preparations, toilet soaps, flavoring extracts, etc., through agents, but without premiums. Some 900 soliciting agents now comprise the sales force, but this staff is being increased in order to enable the company to invade the North and East.

With this issue the Synfleur Scientific Laboratories, Monticello, New York, begin a periodical advertising campaign that has many novel and enterprising aspects. The founder and proprietor of the business, Mr. Alois von

Isakovics, is a thorough chemist, well educated and experienced in research work and manufacture of perfume and flavoring materials. He is a thorough believer in advertising and his success in business is proof of his commercial ability. In the 4-page colored insert that appear in this issue attention is given to Synfleur materials, Synfleur manufacturing service, Synfleur publications, and to two specialties of the house—Orientol-Synfleur and Benzyl-Benzoate Synfleur. This series of advertisements will be watched with widespread interest.

M. H. Techow, Havana, Cuba, has been entrusted with the Cuban agency of Van Dyck & Co., New York. He starts on his new work July 1, with offices at Mercaderes No. 12.

Mr. Gustave Leve, of the Ducas Chemical Co., New York, returned on June 5th by the *Cincinnati*, from a short business trip abroad. Some new accounts that he has arranged for will be announced later.

Mr. Wm. N. Toshach, one of the very oldest manufacturers of extracts and food products, whose scientific and practical articles are familiar to readers of trade journals, has taken charge of the manufacturing department of the Great Atlantic & Pacific Tea Co., New York.

Mr. Frank M. Noonan, of T. Noonan & Co., Boston, Mass., makers of perfumes and toilet preparations, was operated on for appendicitis on the 4th inst. He is fortunately making rapid progress toward complete recovery.

M. Justin Dupont, Argenteuil (S. & O.), France, has very attractive advertisement in this issue in which particular mention is made of "Four New Notes in the Harmony of Perfumes." The comparison of the art of perfumery with the art of music is very apt; for on the underlying scientific basis, the skilled perfumer builds a harmonious chord of odors, just as the musician weaves his harmonies. M. Dupont is represented in this country by Mr. Edwin H. Burr, 18 Cedar street, New York.

The annual convention of the Barber Supply Dealers' Association of the United States will be held in Atlantic City, July 13-15, 1910. The meeting will close with a banquet at the Hotel Rudolph on the evening of the 15th. Headquarters will be maintained at the Hotel Chalfonte.

SOAP; OBSERVATIONS ON THE DETERGENT ACTION OF SOLUTIONS OF ——. W. Spring. Rec. Trav. Chim. Pays-Bas, 1909, 28, 424-438.

Experiments upon the same lines as those previously described with lampblack (this J., 1909, 430) have shown that red earth ($7Fe_2O_3+3H_2O$) and colloidal iron hydroxide also readily form adsorption compounds with soap, which are not decomposed, or only decomposed with difficulty, by water. These compounds no longer possess the power of adhering under water to solid bodies such as glass, porcelain, cellulose, skin, etc. Hence in washing such solid bodies stained with red earth, etc., the cleansing is due to the formation of colloidal ferric soaps, which are not absorbed by the solid bodies.

PURE FOOD AND DRUG NOTES.

In this section will be found all matters of interest contained in FEDERAL AND STATE official reports, newspaper items, etc., relating to perfumes, flavoring extracts, etc.

FEDERAL.

NOTICE OF JUDGMENT NO. 281.

Adulteration and Misbranding of Lemon Flavor.

On or about September 29, 1908, William H. Harrison, doing business under the name of W. H. Harrison & Company, Cincinnati, Ohio, shipped from the State of Ohio to the State of Kentucky a consignment of food product known as "Harrison's Lemon Flavor." M. A. Scovell, Director of the Kentucky Agricultural Experiment Station, Lexington, Ky., acting by authority of the Secretary of Agriculture, caused a sample of the above shipment to be procured and analyzed. As the findings of the analyst and report made indicated that the product was misbranded within the meaning of the Food and Drugs Act of June 30, 1906, the said W. H. Harrison & Company were given an opportunity to be heard, and as it appeared after hearing held that the shipment was in violation of said act the said M. A. Scovell reported the facts and evidence to the United States Attorney for the Southern District of Ohio. In due course a criminal information was filed in the District Court of the United States for the Southern District of Ohio, charging the above shipment, and that the product was misbranded within the meaning of the act, in that it was labeled on front of bottle: "Use Harrison's Lemon Flavor, W. H. Harrison & Company, Cincinnati," and on back thereof, "This lemon flavoring is made of double proof spirits, distilled water, and the best oil of lemon, with a trace of harmless coloring," whereas, in fact, the product was a terpeneless extract of lemon artificially colored and contained no oil of lemon, and was therefore not a true lemon flavor or extract. On March 3, 1910, the defendant entered a plea of *nolo contendere*, and the court imposed upon him a fine of $5.

This notice is given pursuant to section 4 of the Food and Drugs Act of June 30, 1906.

JAMES WILSON,
Secretary of Agriculture.

WASHINGTON, D. C., *April 7*, 1910.

NOTICE OF JUDGMENT NO. 313.

Adulteration and Misbranding of Lemon Extract.

On or about June 6, 1907, the Atwood & Steele Company, Chicago, Ill., shipped from the State of Illinois into the State of Idaho, a consignment of a food product labeled: "Tropical Extract Lemon. One per Cent. Atwood & Steele Company, Chicago." Samples from this shipment were procured and analyzed by the Bureau of Chemistry, United States Department of Agriculture, and as the findings of the analyst and report thereon indicated that the product was adulterated and misbranded within the meaning of the Food and Drugs Act of June 30, 1906, the Secretary of Agriculture afforded the Atwood & Steele Company and the dealer from whom the samples were purchased opportunities for hearings. As it appeared after hearings held that the said shipment was made in violation of the act, the Secretary of Agriculture reported the facts to the Attorney-General, with a statement of the evidence on which to base a prosecution. In due course a criminal information was filed in the District Court of the United States for the Northern District of Illinois, charging the above shipment, and alleging that the product was adulterated within the meaning of the act, because a solution containing little or no lemon oil had been substituted in part for the genuine food article, and was misbranded in

that it was labeled "Tropical Extract Lemon," which statement was false and misleading, and tended to deceive and mislead the purchaser into the belief that the product was a lemon extract of standard strength and quality, whereas in fact it was a solution containing little or no lemon oil.

On December 31, 1909, the defendant entered a plea of *nolo contendre* and the court imposed upon it a fine of $11.30.

This notice is given pursuant to section 4 of the Food and Drugs Act of June 30, 1906.

JAMES WILSON,
Secretary of Agriculture.

WASHINGTON, D. C., *April* 26, 1910.

NOTICE OF JUDGMENT NO. 319.

Misbranding of Hair Tonic.

On or about January 28, 1909, J. L. Lombardo, Buffalo, N. Y., shipped from the State of New York to the State of Michigan a consignment of a drug labeled "Lombardo's La Tosca Hair Tonic." Samples from this shipment were procured and analyzed by the Bureau of Chemistry, United States Department of Agriculture, and as the findings of the analyst and report thereon indicated that the product was misbranded within the meaning of the Food and Drugs Act of June 30, 1906, the Secretary of Agriculture afforded J. L. Lombardo, and the dealer from whom the samples were purchased, opportunities for hearings. As it appeared after hearings held that the said shipment was made in violation of the act, the Secretary of Agriculture reported the facts to the Attorney-General, with a statement of the evidence upon which to base a prosecution. In due course a criminal information was filed against the said J. L. Lombardo in the District Court of the United States for the Western District of New York, charging the above shipment and alleging that the product was misbranded in that it was labeled: "Lombardo's La Tosca Hair Tonic. La Tosca Hair Tonic will eliminate any Scalp Disease, Dandruff, Itch, Headache and the falling of hair. It is advisable, while using La Tosca, to shampoo your scalp at least once a week. This contains pure Columbian Spirit"; which statements were false, misleading, and deceptive, in that the product did not possess the property of eliminating any scalp disease, dandruff, itch, headache, and the falling of hair, and was further misbranded, in that it contained 98.5 per cent. methyl alcohol, and failed to bear a statement of the quantity or proportion of the alcohol contained therein on the label.

On March 8, 1910, the defendant entered a plea of guilty and the court imposed a fine of $25.

This notice is given pursuant to section 4 of the Food and Drugs Act of June 30, 1906.

JAMES WILSON,
Secretary of Agriculture.

WASHINGTON, D. C., *April* 26, 1910.

NOTICE OF JUDGMENT NO. 320.

Adulteration and Misbranding of Vanilla Extract.

On or about March 20, 1909, the Puhl Manufacturing Company, of Chicago, Ill., shipped from the State of Illinois to the State of Wisconsin a consignment of a food product labeled "Puhl's Pure Mexican Vanilla Extract for Flavoring Custards, Ices, Ice Cream, Cakes, etc., etc. Puhl Mfg. Co., Chicago, Ill." Samples from this shipment were procured and analyzed by the Bureau of Chemistry, United States Department of Agriculture, and as the findings of the analyst and report thereon indicated that the product was adulterated and misbranded within the meaning of the Food and Drugs Act of June 30, 1906, the Secretary of Agriculture afforded the Puhl Mfg. Co., and the dealer from whom the samples were purchased, opportunities for hearings. As it appeared after hearings held that the said shipment was made in violation of the act, the Secretary of Agriculture reported the facts to the Attorney-General, with a statement of the evidence upon which to base a prosecution. In due course a criminal information was filed against the Puhl Mfg. Co. in the District Court of the United States for the Northern District of Illinois, charging the above shipment and alleging that the product was adulterated, in that there had been substituted in whole or in part for the genuine food article a dilute vanilla extract, and that it had been artificially colored in a manner to conceal its inferiority; and was misbranded, in that it was labeled "Pure Mexican Vanilla Extract," which statement was false, misleading, and deceptive, in that it indicated that the product was a pure extract of the vanilla bean, whereas, in fact, it was not a pure extract of vanilla, but a dilute extract, artificially colored in a manner to conceal its inferiority.

On December 31, 1909, the defendant entered a plea of guilty and the court imposed upon it a fine of $10.

This notice is given pursuant to section 4 of the Food and Drugs Act of June 30, 1906.

JAMES WILSON,
Secretary of Agriculture.

WASHINGTON, D. C., *April* 26, 1910.

NOTICE OF JUDGMENT NO. 328.

Adulteration and Misbranding of Fruit Syrups.

On or about August 28, 1909, Victor E. Shields and William H. Shields, trading under the firm name of the National Sales Company of Cincinnati, Ohio, shipped from the State of Ohio into the State of Indiana, consignments of food products labeled respectively, "Cherry Syrup," "Peppermint Syrup," "Pineapple Syrup," and "Orange Syrup." Samples of these products were procured and analyzed by the Bureau of Chemistry, United States Department of Agriculture, and as it appeared from the findings of the analyst and report made that the products were adulterated and misbranded in violation of the Food and Drugs Act, June 30, 1906, the Secretary of Agriculture afforded the National Sales Company an opportunity to be heard.

As it appeared after hearing held that the said shipment was in violation of the act, the Secretary of Agriculture reported the facts to the Attorney-General, with a statement of the evidence upon which to base a prosecution. In due course a criminal information was filed in the District Court of the United States for the Southern District of Ohio, charging the above shipment and alleging that the Cherry Syrup was adulterated in that another substance, namely, an imitation cherry flavor and syrup, was substituted wholly or in part for the genuine food product and was artificially colored in a manner whereby to conceal its inferiority, and was misbranded in that it was offered for sale under the distinctive name of another article; the peppermint syrup was adulterated in that another substance, namely, a dilute extract of peppermint, was substituted, wholly or in part, for the genuine food product and that said dilute extract of peppermint was mixed and packed with the product so as to reduce, lower, and injuriously affect its quality and strength, and was artificially colored in a manner to conceal its inferiority, and was misbranded in that it was sold under the distinctive name of another article; and the pineapple syrup and the orange syrup were adulterated in that there had been substituted, wholly or in part, for the genuine food products, an imitation pineapple flavor and syrup, and an imitation orange flavor and syrup, and that said products were each artificially colored in a manner to conceal their inferiority, and each was misbranded in that they were each sold under the distinctive name of another article.

On April 4, 1910, the defendants entered a plea of guilty and were fined $25 on each of four counts.

This notice is given pursuant to section 4 of the Food and Drugs Act of June 30, 1906.

JAMES WILSON,
Secretary of Agriculture.

WASHINGTON, D. C., May 12, 1910.

NOTICE OF JUDGMENT NO. 340.

Adulteration and Misbranding of Olive Oil.

On or about May 22, 1909, Anna Gross, trading under the firm name and style of Ignatius Gross, shipped from the State of New York to the State of Connecticut a consignment of a food product labeled "Prodotti Di Olii, Olio Sopraffino, La Favorita Brand." Samples of this shipment were procured and analyzed by the Bureau of Chemistry, United States Department of Agriculture, and as the find-

ings of the analyst and report made showed that the product was adulterated and misbranded within the meaning of the Food and Drugs Act of June 30, 1906, the Secretary of Agriculture afforded the said Anna Gross, trading as Ignatius Gross, and the dealer from whom the samples were purchased, opportunities for hearings. As it appeared after hearings held that the shipment was made in violation of the act, the Secretary of Agriculture reported the facts to the Attorney General, with a statement of the evidence upon which to base a prosecution. In due course a criminal information was filed in the Circuit Court of the United States for the Southern District of New York, charging the above shipment and alleging that the product was adulterated, in that cotton-seed oil had been substituted in part for the genuine food product, and was misbranded, in that it was labeled "Prodotti Di Olii, Olio Sopraffino, La Favorita Brand," and contained a picture of the branches of the olive tree, which said words, together with the picture aforesaid, indicated that the product was olive oil, whereas, in truth and in fact, the product was not olive oil, for the most part, cotton-seed oil.

On March 29, 1910, the defendant entered a plea of guilty, and the court imposed a fine of $50.

This notice is given pursuant to section 4 of the Food and Drugs Act of June 30, 1906.

JAMES WILSON,
Secretary of Agriculture.

WASHINGTON, D. C., May 12, 1910.

NOTICE OF JUDGMENT NO. 348.

Misbranding of Olive Oil.

On or about August 7, 1908, the Lange Brothers, a corporation, of New York, N. Y., shipped from the State of New York to the State of Massachusetts a consignment of a product labeled "Prodotti Italiani Olio di Oliva Sopraffino F. Ferrucci Lucca Tocana Italy. Lange Bros., New York, Soli Agenti per Gli Stati Uniti di America." Samples of this shipment were procured and analyzed by the Bureau of Chemistry, United States Department of Agriculture, and as it appeared from the findings of the analyst and report made that the product was misbranded within the meaning of the Food and Drugs Act of June 30, 1906, the Secretary of Agriculture afforded the Lange Brothers, and the dealer from whom the samples were procured, opportunities for hearings. As it appeared after hearings held that the said shipment was made in violation af the act, the Secretary of Agriculture reported the facts to the Attorney-General, with a statement of the evidence upon which to base a prosecution.

In due course a criminal information was filed in the Circuit Court of the United States for the Southern District of New York charging the above shipment and alleging that the product was misbranded, in that the statement on the label "Olio D'Oliva" was false and misleading because it would indicate that the product was pure olive oil, whereas in truth and in fact the product contained a considerable quantity of cotton-seed oil.

On April 13, 1910, the defendant entered a plea of guilty and the court imposed a fine of $50.

This notice is given pursuant to section 4 of the Food and Drugs Act of June 30, 1906.

JAMES WILSON,
Secretary of Agriculture.

WASHINGTON, D. C., May 17, 1910.

NOTICE OF JUDGMENT NO. 357.

Misbranding of Witch-Hazel.

On or about January 21, 1969, the Ranney Drug Company, a corporation, of New York, N. Y., shipped from the State of New York to the State of New Jersey a consignment of a drug product labeled "Extract of Witch Hazel or Hamamelis, for the relief and cure of sprains, bruises, bites of insects, burns, scalds, wounds, painful swellings, lame back, piles, sore throat, neuralgia, rheumatism, chilblains, etc., etc. * * * Ranney Drug Co., New York, 27 Pearl St., 9 Beaver St." Samples of this shipment were procured and analyzed by the Bureau of Chemistry, United States Department of Agriculture, and as it appeared from the findings of the analyst and report made that the product was misbranded within the meaning of the Food and Drugs Act of June 30, 1906, the Secretary of Agriculture afforded the Ranney Drug Company, and the dealer from whom the samples were procured, opportunities for hearings. As it appeared after hearings held that the said shipment was made in violation of the act, the Secretary of Agriculture reported the facts to the Attorney-General, with a statement of the evidence upon which to base a prosecution.

In due course a criminal information was filed in the Circuit Court of the United States for the Southern District of New York charging the above shipment and alleging, in the first count, that the product was misbranded, in that it contained a certain amount of alcohol and the quantity or proportion of said alcohol was not stated upon the label, and alleging, in the second count, that it was further mis branded, in that the label stated in substance that the product was for the relief and cure of sprains, bruises, bites of insects, burns, scalds, wounds, painful swellings, lame back, piles, sore throat, neuralgia, rheumatism, chilblains, etc., which statements were false and misleading, in that the product would not relieve and cure all the ailments specified on the said label.

On April 13, 1910, the case came on for trial on the first count, the second count being nolle prossed, and the defendant entered a plea of guilty to the said first count. The court thereupon imposed a fine of $10.

This notice is given pursuant to section 4 of the Food and Drugs Act of June 30, 1906.

JAMES WILSON,
Secretary of Agriculture.

WASHINGTON, D. C., May 17, 1910.

STATE.

OHIO.—Twenty-fourth Annual Report of the Dairy and Food Convention for the year ending November 15, 1909:

FLAVORING EXTRACTS.

It was recommended in the 1908 report that the legal standards for flavoring extracts in Ohio be the same as those presented by the committee on food standards appointed by the Association of State and National Food and Dairy Departments; and in accordance therewith the General Food and Drugs law (at the instance of this department) was amended by the Rathburn bill, passed March 12, 1909.

Immediately thereafter a circular letter was sent to the trade, accompanied by a copy of the law as amended.

The following is a copy of the letter:

Office of Dairy and Food Commissioner,
COLUMBUS, O., April 1, 1909.

FLAVORING EXTRACTS.

To Dealers, Manufacturers and Others Concerned in Flavoring Extracts:

The General Assembly at its last session amended the general Food and Drug law, by adopting as standards for flavoring extracts in Ohio the same standards adopted by the United States Department of Agriculture and promulgated in its Circular No. 19 under date of June 26, 1906.

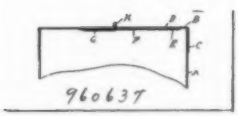
In endeavoring to enforce the law relating to flavoring extracts, it was evident that the law in Ohio on this subject was too exacting. Heretofore, it was necessary that extracts sold in Ohio should conform to the standards laid down in the United States Pharmacopœia. In some instances it was practically impossible to sell a legal product that was at all desirable for food purposes. In other instances it was necessary to label genuine articles as artificial or imitation products.

The only modification in the law is that changing the standards for flavoring extracts from those laid down in the United States Pharmacopœia and National Formulary and other standard works on Materia Medica to the Federal standards.

All extracts that do not conform to these adopted standards must still be labeled as "compounds" or "mixtures" or "imitation" or "artificial," as the case may be, together with the formula printed in the English language, in terms of 100 per cent., and all in proper sized type. This labeling should appear on both the carton and bottle.

Yours very truly,
RENICK W. DUNLAP,
Commissioner.

PATENTS AND TRADE MARKS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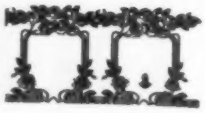
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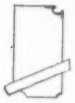
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NOTE TO READERS.

This Department is conducted under the general supervision of Samuel E. Darby, Esq., Patent and Trade-Mark Attorney, 220 Broadway, New York, formerly Chief Clerk and Examiner, U. S. Patent Office. This report of patents, trade marks, labels and designs is compiled from the official records of the Patent Office in Washington, D. C. We include everything relating to the four co-ordinate branches of the essential oil industry, viz: Perfumes, Soap, Flavoring Extracts and Toilet Preparations.

The trade marks illustrated are described under the heading "Trade Marks Applied For," and are those for which registration has been *allowed*, but not yet *issued*. All protests for infringement, etc., should be made promptly to the Commissioner of Patents, Washington, D. C.

All inquiries relating to patents, trade marks, labels, copyrights, etc., will receive Mr. Darby's attention if addressed to

PATENT AND TRADE MARK DEPT.,
Perfumer Pub. Co., 100 William St., New York.

PATENTS GRANTED.

959,820.—ART OF MAKING HYDROCARBON SOAPS.—Isaac Vanden Broek, New York, N. Y. Filed June 6, 1907. Serial No. 377,506.

1. The improvement in the art of making hydrocarbon soaps, which consists in first emulsifying the hydrocarbon with soap and the aid of a relatively minute quantity of ammonia and then gradually stirring it into a heated mass of soap and cooling the same.

2. The improvement in the art of making hydrocarbon soaps, which consists in first emulsifying the hydrocarbon with a dilute solution of soap containing a small quantity of ammonia and then gradually stirring it into a heated mass of soap and cooling the same and then granulating the mass so produced.

3. The improvement in the art of making hydrocarbon soaps, comprising the step of emulsifying a volatile hydrocarbon with a warm aqueous solution of soap containing a small quantity of ammonia for causing or aiding the emulsifying action.

4. The improvement in the art of making hydrocarbon soaps, comprising the step of emulsifying a volatile hydrocarbon consisting largely of naphtha by stirring the hydrocarbon into a solution of soap containing approximately ten parts by weight of soap to one part of ammonia water at a temperature approximating 120 degs. Fahr.

5. The improvement in the art of making hydrocarbon soaps, comprising the step of emulsifying a volatile hydrocarbon consisting largely of naphtha by stirring the hydrocarbon into a solution of soap containing approximately ten parts by weight of soap to one part of ammonia water at a temperature approximating 120 degs. Fahr. and continuing the addition of hydrocarbon until at least 100 parts thereof for each part of soap are present.

960,637.—CAN TOP.—Jervis R. Harbeck, Detroit, Mich., assignor, by mesne assignments, to Detroit Can Company, Detroit, Mich., a Corporation of New Jersey. Filed June 18, 1909. Serial No. 502,911.

The combination with a sheet metal can top provided with a discharge opening at one end and an elongated guide opening near the other end having parallel side edges, of guide flanges projecting downwardly and inwardly from the sides of the guide opening, a slide having a head portion underlying the cover and adapted to open and close the discharge opening therein, and a portion supported upon the flanges at the guide opening with the edges of said portion in close proximity to the downwardly extending portions of said flanges, and a transverse fold in the portion of the slide lying within the guide opening, said fold extending entirely across the slide and projecting above the top through the guide opening to form an operating shoulder.

TRADE MARKS REGISTERED.

77,915.—Perfumery.—Geo. Borgfeldt & Co., New York, N. Y.
Filed February 9, 1910. Serial No. 47,681. Published March 15, 1910.

77,920.—Olive Oil.—Wilber S. Hopkins, Chicago, Ill.
Filed December 8, 1909. Serial No. 46,343. Published March 15, 1910.

77,930.—Tooth Powder and Antiseptic Mouth Wash.—Karl August Lingner, Dresden, Germany.
Filed January 21, 1909. Serial No. 40,059. Published August 24, 1909.

77,935.—Olive Oil.—MacMonnies & Von Elm, New York, N. Y.
Filed May 20, 1909. Serial No. 42,544. Published March 15, 1910.

77,963.—Certain Foods.—Spokane Extract & Spice Company, Spokane, Wash.
Filed September 23, 1909. Serial No. 44,874. Published January 25, 1910.

77,974.—Lotion for the Head and Face.—The Bonheur Co., Marcellus, N. Y.
Filed March 8, 1907. Serial No. 25,866. Published March 15, 1910.

77,988.—Olive Oil.—Farrington & Whitney, New York, N. Y.
Filed January 3, 1910. Serial No. 46,864. Published March 22, 1910.

78,009.—Cold Cream and Talcum Powder.—S. Kann Sons & Co., Washington, D. C.
Filed December 6, 1909. Serial No. 46,293. Published March 22, 1910.

78,013.—Olive Oil.—MacMonnies & Von Elm, New York, N. Y.
Filed March 25, 1909. Serial No. 41,406. Published March 22, 1910.

78,016.—Medicines and Toilet Preparations.—Mexican Amole Soap Co., Peoria, Ill.
Filed January 22, 1908. Serial No. 32,383. Published March 22, 1910.

78,030.—Medicines and Toilet Preparations.—Vertriebs-Gesellschaft Prof. Dr. Schleich'scher Präparate G. M. B. H., Berlin, Germany.
Filed March 26, 1909. Serial No. 41,426. Published March 22, 1910.

78,031.—Soap.—W. & F. Walker, Limited, Liverpool, England.
Filed October 19, 1909. Serial No. 45,401. Published March 22, 1910.

78,032.—Soap.—The J. B. Williams Company, Glastonbury, Conn.
Filed July 28, 1909. Serial No. 43,835. Published October 19, 1909.

78,065.—Antiseptic Mouth Wash.—Chemische Werke vorm. Dr. Heinrich Byk, Berlin, Germany.
Filed August 9, 1909. Serial No. 44,030. Published March 29, 1910.

78,069.—Soap.—The J. P. Davies Co., Dayton, Ohio.
Filed February 1, 1910. Serial No. 47,504. Published March 22, 1910.

78,087.—Medicines and Toilet Preparations.—Moses Goldenberg, Washington, D. C.
Filed January 4, 1910. Serial No. 46,906. Published March 29, 1910.

78,100.—Lotions.—Marcus Johnson, St. Paul, Minn.
Filed August 16, 1909. Serial No. 44,167. Published March 29, 1910.

78,106.—Hair Tonic.—Louis Kuntscher, Tarpon, Tex.
Filed November 23, 1909. Serial No. 46,082. Published March 29, 1910.

78,143.—Cold Cream.—Walker Chemical Co., Des Moines, Iowa.
Filed October 25, 1909. Serial No. 45,533. Published March 29, 1910.

78,173.—Medicinal Preparation for the Skin and Scalp.—Horace D. Griswold, Nashua, N. H.
Filed April 22, 1909. Serial No. 41,927. Published March 29, 1910.

78,228.—Soaps for Toilet Use and Shaving Soap.—Colgate & Co., Jersey City, N. J., and New York, N. Y.
Filed November 16, 1909. Serial No. 45,912. Published March 29, 1910.

78,282.—Detergent.—The Southern Specialty Co., Franklin, Ky.
Filed December 31, 1909. Serial No. 46,834. Published March 29, 1910.

78,284.—Certain Foods.—G. F. Sutton Sons & Co., London, England.
Filed November 26, 1907. Serial No. 31,369. Published March 29, 1910.

78,289.—Medicinal Soaps.—Paul Werner, Berlin, Germany.
Filed July 19, 1909. Serial No. 43,639. Published March 29, 1910.

78,316.—Toilet Preparations.—Katie E. Dunn, Washington, D. C.
Filed February 4, 1909. Serial No. 40,354. Published April 5, 1910.

78,328.—Pharmaceutical Preparations.—Samuel L. Holmes, Detroit, Mich.
Filed February 7, 1910. Serial No. 47,619. Published April 5, 1910.

78,384.—Soap.—Lautz Bros. & Co., Buffalo, N. Y.
Filed November 29, 1909. Serial No. 46,169. Published March 22, 1910.

LABELS REGISTERED.

15,180.—Title: "Velvetone Hair Tonic." (For Hair Tonic.)—Geo. Pabst, San Antonio, Tex. Filed April 18, 1910.

15,181.—Title: "Do Uwanta E Z Wash?" (For Washing Compound.)—William V. R. Heckman, Independence, Kan. Filed May 9, 1910.

15,182.—Title: "Helene Varre." (For Toilet Talcum Powder.)—Clara Tetlow, Philadelphia, Pa. Filed April 20, 1910.

15,185.—Title: "Oxy the Peroxide Cream." (For Toilet Cream.)—Victor Halper, New York, N. Y. Filed April 4, 1910.

15,186.—Title: "Daniel's Witch Hazel." (For Witch Hazel.)—Dr. A. C. Daniel's Inc., Boston, Mass. Filed April 8, 1910.

15,197.—Title: "Pynetar Hair Tonic." (For Hair Tonic.)—Oka D. Ettinger, Cleveland, Ohio. Filed May 10, 1910.

15,203.—Title: "Restorina." (For Hair Dye.)—Gustav Sattler, New York, N. Y. Filed March 23, 1910.

TRADE MARKS APPLIED FOR.

38,497.—G. R. Springer, Kansas City, Mo. Filed Nov. 5, 1908.—Hair Tonic, and Dandruff Remover.

40,870.—Oakley Chemical Co., New York, N. Y. Filed March 1, 1909.—A Granulated Chemical Cleansing Compound.

41,294.—Wohltat G. m. b. H. Chem. Fabrik, Schöneberg, Germany. Filed March 19, 1909.—A Detergent Composition for Washing the Feet.

42,721.—Karl August Lingner, Dresden, Germany. Filed May 28, 1909.—Solid Soap, Liquid Soap, and Powdered Soap.

43,205.—Jno. M. Hutchison, Jewell City, Kan. Filed June 14, 1909.—Skin Lotion.

(*Concluded on page* 110.)

FOREIGN CORRESPONDENCE AND MARKET REPORT

BULGARIA.

Since the middle of April there have been only eight to ten days of perfectly clear, warm, and sunny weather. The rest have been cloudy, partially sunny, rainy, and extremely fresh, just the weather for a rose harvest. At night time it has often been even cold and chilly, the temperature often falling as low as 54 degs. to 56 degs. Fahr. While this has interfered somewhat with the yield of rosebuds in some localities, and especially in the lowlands, on the other hand it has allowed the rosebuds to develop and grow gradually. Another effect of this cool weather will be the protraction of the rose harvest, which at the present rate is progressing very slowly and may last from four to five weeks, while the average time is only about three weeks. The harvesting has become general only in the southern rose countries, but will hardly be commenced in the northern Balkan localities before the beginning of next week. There are many villages that have been distilling since May 15, and their yield has been quite satisfactory.

FRANCE.

Our regular correspondent writes us as follows:

"The gathering of orange flowers is proceeding under difficulty. The crop last year was a very good one, very much larger than the average, and the yield of essential oil was very large. Many distillers were inclined to believe that the May crop would be less abundant as a consequence, but the fact is that the trees budded during the mild winter.

During April there were a very few cold days, and some hail fell, although no great damage was done. At the beginning of May there was a delay of a week through the bad weather and the actual gathering started on the 6th. About the middle of the month the weather settled, and under the warm rays of the sun the blossoming and flowering became better, and it is now estimated that the entire crop has been 1,200,000 kgs. and about 300,000 kilos below the average.

Prices have not risen much, and flowers were sold for 1.1 francs per kg.

THE WATER QUESTION.

Early last month the producers of neroli and orange flower water in the vicinity of Grasse, had to face a difficult situation. About three months ago a dispute arose between the municipality of Grasse and the distillers regarding the water rates, but the mayor awaited the decision of the Council of State before taking any action. However, without notice, the water supply was discontinued from several large manufacturers, and as a consequence matters were brought quickly to a head when the manufacturers of perfumery materials went to Paris and put the whole affair before the president of the Council. The Societe Co-operative des Producteurs d'Orangers, of Vallauris, which found itself with a large part of the crop on its hands, took up the distillation itself, producing about 500 kilos. However, by the 20th of the month peace was again restored.

There seems to be a belief in some quarters that the whole trouble was due to a desire on the part of some manufacturers, who have large quantities of neroli on hand, to restrict the production and that they took advantage of the water situation to effect their purpose. A careful perfume manufacturer will not give up the use of neroli just because the price is raised a little higher, and neither will he try to buy oil of neroli at a ridiculously low price. Those who are willing to pay a fair figure will be supplied with better oil, and by so doing will cease to encourage the unfair dealings of some producers who are always ready to supply neroli at any price."

From another source we have received a report giving the essential oil producers' side of the case, and in fairness we print it also:

"GRASSE, May 31, 1910.—The harvesting of orange blossoms and roses is about over in the south of France. The supply of orange blossoms was not very abundant and the crop is 10 per cent. below that of 1909. Prices are, nevertheless, below the figures ruling the previous season, the blossoms having sold at 1.10 francs per kilogram, against 1.40 francs per kilogram last year. The growers, who form a combine, undoubtedly appreciate that the excessively high prices which have been asked for the past several years without any warrant had caused dissatisfaction among the consumers, and that it was necessary again to have recourse to a more correct judgment of market conditions. The price of neroli has not as yet been fixed, but it must be expected that the figures will be close to 500 francs per kilogram. The rose crop was again injured by frosts during the first few days of May. As the same thing happened last year, this article is now in a precarious condition. The present crop may be estimated at only 50 per cent. of a normal one, and the price of roses has consequently been very high, viz., 1.25 francs per kilogram, against an average price of 0.60 franc.

We also have to report an advance in the price of Florentine orris, the present quotation being 100 francs per 100 kilograms.

African geranium is quoted at 33 francs a kilogram, and will go still higher.

Bourbon is sold at 29 francs, with an advancing tendency.

No changes in lavender, nothing being known as yet in regard to the coming harvest."

Mlle. Marie-Claire Goby, daughter of M. Xavier Goby, of Tombarel Frères, of Grasse, was married recently to M. Charles Harmel.

During the past three years visitors to Paris will have noticed the handsome frontage of a shop in the Rue de la Paix, Paris, fitted in Empire style and bearing the name "Perfume Palace" on the facia. The inside fittings were also very stylish and set off by a fine Turkey carpet, "the sort of place," as a well-known London manufacturer remarked, "where ladies would like to go shopping." A general stock of all the leading French and English marks of perfumery was kept in the "Palace," but high rent and competition have proved too much for the venture, and the shop is now closed. The proprietor was formerly the head of the perfumery department at the well-known Bon Marché department store in Paris.

TURKEY.

Consul-General E. L. Harris, of Smyrna, gives a résumé of the olive oil trade in Turkey:

The average output of olive oil in all Turkey, including the islands, amounts to about 45,000 tons. The 1908-9 season yielded 22,500 tons. Prices fluctuated as follows: Oil for industrial purposes from $11.50 to $13.80 per cwt., in barrels, actual tare f. o. b., and that for edible purposes $14.80 to $19.50 per cwt., f. o. b. As a result of these high figures local consumption and industry have used olive oil much below the usual average. The 1909-10 season is estimated at about 45,000 tons. The United States is one of the most important consumers of the Turkish oil, but the amounts so far drawn (March 24, 1910) are small, on account of the Spanish oil being cheaper. Were olive trees more properly cared for here, especially during the gathering of the fruit, the crop of this article would no doubt be considerably larger, as the climate and soil favor these plantations.

THE DOMESTIC MARKET.

General market conditions are rather quieter than is usual at this time of the year, though from some parts of the West there are reports of fair business. The essential oil trade shares in the prevailing conditions, but there is a general belief that there will be gradual but steady improvement.

Authentic data are at hand regarding the peppermint crop. In Michigan and Indiana there is a total acreage of 9,860, against 9,687 last year. The current production of oil is likely to exceed that of last year, as the plants in the new setting give a much larger yield than the old. Large stocks are still in the hands of growers, and dealers are maintaining their waiting attitude.

The recent earthquakes in Italy have not affected the essential oil producing districts. The market is quiet and the orange oil situation is also dull because of the delay in settling the tariff question. There is every likelihood that there will be no decision before September or October, as the government is desirous of taking testimony in California.

BEANS.

According to our French correspondent there has been little change in the situation abroad, and local dealers are shaping their policies in accordance therewith. Little change need be looked for during the next few months.

Our Paris correspondent gives the following report of the vanilla bean situation: "I embrace this opportunity to give you an exact account of the vanilla arrivals from the Islands during this month, which shows, as already previously pointed out, a very significant shortage in comparison with last year:

1910—May 15	20 cases.		1909—May 15	119 cases	
" 20	5	"	" 20	..	
" 25	7	"	" 25	165	"
	32	"	against	284	"

The market here is still very firm. Prices are maintained, and I might even say will likely rule higher in consequence of the very small stock on hand. Every unfavorable change in the market is quite excluded for a good many months to come."

SOAP MATERIALS.

Tallow, city, .07⅜ (hhds.); country, .07⅛.

Grease, brown, .06¾; yellow, .06⅞.

Cottonseed Oil, crude, tanks, 6.50@6.60; summer yellow, prime, 7¾@7⅞.

Cocoanut Oil, Cochin, .11; Ceylon, .09⅝.

Olive Oil, in bond, .80@.85.

Olive Oil, Foots, prime, .06¾.

Palm Oil, Lagos, .07¼; red, prime, .07.

Peanut, .07⅜.

Soya Bean Oil, .07½.

Chemicals, borax, .04½; caustic soda, 80 p. c. basis of 60 p. c., $1.90.

Rosin, .30@.32.

Almond, Bitter.....per lb.	$3.50
" " F. F. P. A.....	4.50
" Artificial	.70
" Sweet, True	.55-.60
" Peach-kernel	.30-.35
Amber, Crude	.13
" Rectified	.20
Anise	1.15
Aspic (Spike)	1.35
Bay, Porto Rico.....	3.50
Bay	2.10
Bergamot, 35%-36%.....	3.80
Birch (Sweet)	1.80
Bois de Rose, Femelle.....	4.50
Cade	.20
Cajeput	.60
Camphor	.12
Caraway Seed	1.00
Cardamom 11.00-18.00	
Carvol	1.75
Cassia, 75-80%, Technical.....	1.00
" Lead free	1.20
" Redistilled	1.60
Cedar, Leaf	.50
" Wood	.20
Cinnamon, Ceylon 6.50-12.00	
Citronella	.28
Cloves 90-1.40	
Copaiba	1.25
Coriander 6.00-13.00	
Croton	.75
Cubebs	3.60
Erigeron	1.70
Eucalyptus, Australian, 70%...	.50
" American	.60
Fennel, Sweet	1.40
" Bitter	.75
Geranium, African 3.50-4.00	
" Bourbon 3.25-3.50	
" French	11.00
" Turkish	2.90
Ginger	4.50
Gingergrass	$1.35
Hemlock	.55
Juniper Berries, twice rect.....	1.30
Kananga, Java	4.00
Lavender, English	7.00
" Cultivated	2.75
" Fleurs, 28-30% ...	2.50
Lemon	.85
Lemongrass	1.00
Likari	12.00
Limes, expressed	2.00
" distilled	.80
Linaloe	3.20
Mace, distilled	.80
Mustard, natural	4.10
" seed, gen	8.50
" artificial	2.00
Myrbane, rect.	.12
Neroli, petale 80.00-90.00	
" artificial	17.00
Noumea	3.50
Nutmeg	.90
Opoponax	7.00
Orange, bitter	2.50
" sweet	2.50
Origanum	.40
Orris Root, concrete.....(oz.)	3.50-4.50
" " absolute 28.50-32.00	
Patchouly 4.00-4.50	
Pennyroyal	2.00
Peppermint, W. C.....	1.95
Petit Grain, American.....	4.50
" " French	6.00
Pimento	2.25
Rose .....(oz.)	5.00-5.50
Rosemary, French	.80
" Trieste	.70
Rue	3.00
Safrol	.50
Sandalwood, East India.....	3.00
" West India.....	1.30
Sassafras, artificial	.35
Sassafras, natural	$0.70
Savin	1.40
Spearmint	1.90
Spruce	.45
Tansy	3.50
Thuya	2.30
Thyme, red, French.....	1.10
" white "	1.30
Vetivert, Bourbon	8.50
" Indian	35.00
Wintergreen, artificial	.38
" genuine	4.75
Wormwood	6.50
Ylang-ylang 50.00-65.00	

BEANS.

Tonka Beans, Angostura.....	1.75
Vanilla Beans, Mexican 3.50-5.00	
" " " Cut....	3.25
" " Bourbon 3.25-4.00	
" " Tahiti 75-1.25	

SUNDRIES.

Ambergris, black .....(oz.)	20.00
" gray ..... "	25.00
Civet, horns .....(oz.)	1.75-1.85
Cologne Spirit	2.70
Cumarin	3.55
Heliotropine	1.90
Musk, Cab., pods .....(oz.)	8.00
" " grain ..... "	15.00
" Tonquin, pods .... "	18.00
" " grain ... "	22.00
" Artificial, per lb.....	1.50
Orris Root, Florentine, whole..	.12
Orris Root, powdered and granulated	.14
Talc, Italian	0.1½-.01¾
Terpineol	.35-.45
Thymol	1.85
Vanillin .....(oz.)	.33-.35

TRADE MARKS APPLIED FOR.

(*Concluded from page* 107.)

43,675.—F. C. Calvert & Co., Bradford, Manchester, England. Filed July 21, 1909. Used ten years.—Dentifrices in Powder, Paste or Liquid Form, Comprising Tooth Powder, Tooth Paste and Antiseptic Mouth Wash, etc.

45,181.—William J. Lautz, Buffalo, N. Y. Filed Oct. 7, 1909.—Remedy for Body Odors.

45,227.—Wadhams & Co., Portland, Ore. Filed Oct. 9, 1909.—Flavoring Extracts, etc.

45,953.—Kosaburo Nakayama, Osaka, Japan. Filed Nov. 17, 1909.—Toilet Bath Powder, Tooth Powder.

46,301.—Edible Products Co., Jersey City, N. J. Filed Dec. 6, 1909.—Refined Bean Oil Used as a Food.

46,590.—Frank L. Greer, Bloomington, Wis. Filed Dec. 18, 1909.—Lotions for the Face, Hands and Skin.

46,610.—Eva L. Frye, Lowell, Mass. Filed Dec. 20, 1909.—Face Cream.

46,789.—John H. Stevens, Newark and South Orange, N. J. Filed Dec. 29, 1909.—Perfumes, Liquid Dentifrices, Powder Dentifrices, Paste Dentifrices, and Facial Lotion

47,033.—Westmoreland Grocery Co., Greensburg, Pa. Filed Jan. 10, 1910.—Olive Oil, Salad Oil composed of Pure Cottonseed Oil, etc.

48,338.—Charles J. Mount, Kansas City, Mo. Filed March 11, 1910.—Hair Tonic, etc.

48,468.—Gerhard Mennen Chemical Co., Newark, N. J. Filed March 16, 1910. (The portrait being that of Gerhard Mennen, deceased).—Talcum Powder.

48,492.—Jas. H. Forbes Tea & Coffee Co., St. Louis, Mo. Filed March 16, 1910.—Food Flavoring Extracts, etc.

48,854.—Gisberto Granucci, San Francisco, Cal. Filed April 4, 1910. Used ten years.—Olive Oil.

48,862.—Finlay, Dicks & Co., Ltd., New Orleans, La. Filed April 5, 1910. (Consisting of the name La Valliere and a fanciful picture of two persons.)—Perfumes and Talcum and Face Powders.

48,911.—Charles J. Mount, Kansas City, Mo. Filed April 8, 1910.—Hair Tonics, etc.

48,892.—Victor Halper, New York, N. Y. Filed April 7, 1910.—Massage Cream.

49,171.—Puritan Soap Co., Rochester, N. Y. Filed April 18, 1910.—Soap.

49,229.—The J. B. Williams Co., Glastonbury, Conn. Filed April 21, 1910.—Preparation for cleaning the teeth.

49,313.—William T. Grosse, San Francisco, Cal. Filed April 26, 1910.—Soap.

NEW INCORPORATIONS.

New York Perfume and Lace Company, New York; manufacture perfumes, laces, embroideries, manicure and toilet articles, etc.; capital, $5,000. Incorporators: Louis Lipsky, B. H. Stern, A. B. Keve, all of 149 Broadway, New York City.

The Venetian Toilet Company, Buffalo, N. Y.; manufacture and deal in face creams, powders, etc.; toilet articles; capital, $1,000. Incorporators: Julius L. Laux, 482 Greenwood avenue; Estelle A. Van Winkle, 285 Fourteenth street; Franklin G. Hengerer, 139 Winslow avenue.

Lazell, New York City; manufacture and deal in soaps, perfumeries, toilet articles, etc.; capital, $250,000. Incorporators: H. Dalley, E. M. Dalley, F. N. Carpenter, New York City.

CIRCULARS, ETC., RECEIVED.

Anton Deppe Söhne, Hamburg, Germany (American Agents, Cailler & Co., Inc., New York). Wholesale price list May, 1910.—The "A. D. S." line is very complete and includes practically all the essential oils, most of the synthetics, floral "ottos" (non-alcoholic), etc.

Ungerer & Co., New York. Price Current and Bulletin, May, June, 1910.—In addition to the usual complete line of products specialized in by Ungerer & Co.'s principals, four pages are devoted to interesting reading matter. First there is an article on Vanillin *vs.* Vanilla Beans, by Mr. E. C. Spurge, an announcement of Ungerer & Co.'s new office on the Pacific Coast; a history of the house of Chuit-Naef; and a report of products and crops.

Schimmel & Co. (Fritzsche Brothers), Miltitz, near Leipzig, Ger., London and New York. Semi-Annual Report, April, 1910.—In the table of contents, the following chapters are mentioned:

Commercial notes and scientific information on essential oils, new essential oils, Hungarian Pharmacopœia, Italian Pharmacopœia, American Pharmacopœia, suggestions for the new British Pharmacopœia, the essential oils dealt with on the second International Congress of the White Cross, chemical preparations drugs, notes on recent research work concerning terpenes and terpene derivatives. In the introductory remarks there is an interesting account of the growth of the firm's business all over the world, and referring in particular to the United States, they say: "The hopes expressed in our last report with regard to the commercial position in the United States have been confirmed in every respect, and our New York branch is able to look back with ample satisfaction upon the results of its endeavors to promote the sale of our manufactures in this market, for which, after a commercial relationship extending over nearly 40 years, we entertain feelings of something more than mere business connection."

TRADE MARKS FOR REGISTRATION IN OUR BUREAU.

We have been petitioned to register the following trade marks. Any of our readers that have good reason to protest against the issuance of our Certificate of Registration under the common law, should communicate with us before July 21, 1910.

The registration of trade marks in our Bureau will serve to establish the priority of the use of such trade marks in actual commerce by applicants.

Serial No. 15.—The Arthur Chemical Co., New Haven, Conn. (Filed May 16, 1910.)

KOLORENE

For a dye for straw hats.

Serial No. 16.—The Arthur Chemical Co., New Haven, Conn. (Filed May 16, 1910.)

PYROXOGEN

For peroxide of hydrogen and toilet preparations.

Serial No. 17.—The Arthur Chemical Co., New Haven, Conn. (Filed May 16, 1910.)

NADONE

For perfumes, toilet waters, toilet powders, sachet powders, toilet benzoin, liquid green soap and other toilet preparations.

SPRINKLER TOPS
POWDER TOPS
BITTER TUBES

MOULDS MADE
FOR EXCLUSIVE
DESIGNS

IMPERIAL METAL MFG. CO.
(CARL BOMEISLER, Prop.)

CUT GLASS
BOTTLES
FANCY PERFUME
BOXES
and
SPECIALTIES

CARL BOMEISLER
(Successor to
I. SPRINGER & CO.)

420-422-424 EAST 106th ST., NEW YORK

S & A
Pomades and Concretes

Represent the *oldest* and *best*, as well as the *newest* and *best* in natural flower odors. The only perfect substitute for the best Pomade washing is a solution of the S & A Concretes. Try 80 per cent. of ours against 100 per cent. of any other.

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C X C
Otto of Rose

Get our price and compare qualities before contracting.

INNIS, SPEIDEN & CO. Established 1816 **46 Cliff St., New York**

218 Purchase Street, Boston — 9-11 West Michigan Street, Chicago — 147 S. Front Street, Phila

ESTABLISHED 1884

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114 JOHN ST., NEW YORK
119 FRANKLIN ST., CHICAGO

Otto of Roses, U. S. P.
Orris Concrete

BERTRAND'S BRAND
OIL OF LAVENDER
OIL OF THYME (White and Red)
OIL OF ROSEMARY PURE
OIL OF VETIVERT, PURE
OIL OF BOIS DE ROSE (FEMELLE)

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SYNTHETICS
MUSK-AMBRETTE

New Specialties
MUGUET
CHÈVREFEUILLE
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H. C. Fox & Sons, Inc.

MANUFACTURERS OF

Glass Bottles

FOR

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FACTORIES AND GENERAL OFFICE
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Special Attention Given to Perfumers' Requirements and to New Designs

The American Standard For High Grade Bottles

Our perfume bottles have been leaders in style, design and quality for over 20 years.

AN UP-TO-DATE BOTTLE IS YOUR SILENT SALESMAN

Quality goods for quality people.

Good goods are worthy of a good package.

CUT GLASS BOTTLES

TRADE CARR-LOWREY U.S.A. MARK

Designs and prices furnished upon application.

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New York Office: 290 BROADWAY

The above engraving shows a round-shouldered face powder box 2¾" in diameter. This and the 3 1/16" size are most commonly used.

A variety of finishes in both telescopic and shouldered styles; and in several diameters and heights.

We make small paper boxes.

E. N. ROWELL CO.

BATAVIA, N. Y.

The Finest of all Rhodium Oils

a product of the highest quality —the best that can be made.

Natural Flower Essences

that are *really* natural.

Orange-Cassie

in sweetness and strength incomparable; entirely soluble in alcohol.

Bernard-Escoffier Fils.

ESTABLISHED 1820

Grasse, France

SOLE AMERICAN AGENT:

Geo. V. Gross, 130 Pearl St., New York

"DUCO" JASMINE (SYNTHETIC)

$1.50 per oz. $22.00 per lb.

¶ A PUNGENT and POWERFUL Jasmine oil.

¶ The "DUCO" quality is extremely fine and better than any other Jasmine on the market, BECAUSE it is the SWEETEST, STRONGEST and most NATURAL JASMINE Synthetic.

¶ It contains NO Indol and DOES NOT dye red.

¶ It is worth your while to give it a trial, as we are certain that you can cheapen the cost without cheapening the quality of many of your products, by using our DUCO Synthetic Jasmine.

COMPETITION

¶ In order to meet competition in price, we are offering our HIGHEST GRADE Synthetic Jasmine at a special figure of $22.00 per lb.

¶ We will send, prepaid, ONE OUNCE SAMPLE for $1.00.

¶ On receipt of your first order for one-half pound or more, WE WILL CREDIT YOU with the dollar paid by you for sample.

DUCAS CHEMICAL COMPANY

"Manufacturers for Manufacturers"

Hudson Terminal Building

NEW YORK, N. Y.

E. Sachsse & Co., Leipzig

Established 1859.
Manufacturers of

High-Class Essential Oils

Oils Ambrette, Cinnamon pure, Orris Root, etc.

TERPENELESS ESSENTIAL OILS

Oils Bay, Lemon, Orange, Rosemary, etc. These Terpeneless Essential Oils are manufactured by a new process of our own, and are far superior to other makes.

ARTIFICIAL ESSENTIAL OILS

Oils Bergamot, Neroli, Rose, Ylang Ylang.

SYNTHETIC PERFUMES

Beeswax perfume, Benzylacetate, Geraniol, Hyacinth, Muguet, Nerolin, Trefol.

FLOWER OILS, Free of Alcohol and Fatty Substances

Honeysuckle, Hyacinth, Lily of the Valley, Narcissus, Pinkblossom, Sweet Pea, Violets.

All bottles must bear our trade mark

Agents for the United States:

Magnus, Mabee & Reynard
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NEW YORK

FRENCH
OLIVE OIL

WE emphasize the fact that our Olive Oil is really pressed from olives grown in France, and on our own lands in the very best part of the olive district—the higher plains of the French Alps.

Let us send you a sample of **"Surfine"** brand, the virgin pressing, and you will handle it regularly.

Serial No. 521.

PIERRE SICARD
CANNES, FRANCE

American Branch: 273 Pearl St., New York

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244 California St., San Francisco.

Three More Stars

ROSE C. M.—A true flower odor; has the strength of otto; guaranteed not to contain geraniol or oil geranium. Will not undergo chemical change after blending with other products. - - $42.50 per lb.

YLANG YLANG C. M.—A perfect substitute for the natural oil in sweetness and strength. - - - - - - $28.80 per lb.

VIOLET VERDURE—Cheapest product for giving the *leaf* and *stem* effect. Can be used in perfumes, toilet powders and other preparations. - - $12.00 per lb.

Write for our Complete List

COMPAGNIE MORANA, Zurich, Switzerland
American Branch:
110 West Thirty-fourth Street, New York

J. Mero & Boyveau
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GRASSE (Established 1832) **FRANCE**

Raw Materials for Perfumers and Soapmakers
Essential Oils and Pomades
Concrete and Liquid Pure Essences
Flower Waters

Almond
Olive and
Peachkernel **Oils**

DIRECT CORRESPONDENCE SOLICITED

CLASSIFIED ADVERTISEMENTS.

On account of our wide circulation among manufacturers, dealers, importers, etc., of perfumery, soaps, toilet specialties, flavoring extracts, etc., our readers will find this column a quick and satisfactory means for advertising temporary matters. To display advertisers and regular subscribers this service is free; all others 25c. per line per insertion. Cash with order. Address all communications to PERFUMER PUB. CO., 100 William St., New York.

BUSINESS OPPORTUNITIES.

WANTED.—Second-hand talcum powder sifter and mixer, capacity 300-600 lbs. Must be in first class condition. Address H. K., care of this journal.

IMPORTED LABELS for perfumers; exquisite designs; samples on request. Box 115, Merchants Station, St. Louis, Mo.

WANTED.—Sales Agents to handle our high-grade perfume composoils and concentrates. Principal or side line. Liberal commissions, exclusive territory to right parties. METZGER CHEMICAL COMPANY, 164 Front Street, New York.

A TECHNICAL and practical toilet and shaving soap-maker; must be able to produce new and superior goods. Address, G. M. I., care this journal.

EMBOSSED GOLD SEALS AND LABELS of highest quality for perfumers. Write for samples. F. E. Mason & Son, Batavia, N. Y.

WE ARE SPECIALISTS in the manufacture of casein rolling massage cream. Write us for samples and quotations. Get our prices before placing your contract. MARK W. ALLEN & Co., Detroit, Mich.

FOR SALE.—A well-advertised French novelty perfume business; will sell stock at manufacturer's cost; present owner not capable of running business; very cheap. A. W., care of this journal.

WE want, as a SALESMAN, a young man who is somewhat familiar with the use of essential oils and perfumery specialties. Experience in selling not essential. Address S., care of this journal.

WE ARE SPECIALISTS in the manufacture of Concentrates and Flower Oils. Write us for price list and quotations. Get our prices before placing your contract; our Flower Oils are high-grade oils. Perfumes made from our oils will be equal to the very best French perfumes. E. G. FRITZ Co., No. 551 Clinton Av., North Rochester, N. Y.

BEAUTIFUL STOCK LABELS.—Six designs for perfumes, 1½ oz. and 2 oz. sizes; one design for toilet waters, 4 oz. and 8 oz. sizes. A great bargaain. Write for samples and prices. State quantity you can use. M. de Huguené, 24 Barclay St., New York.

LOEW FILTER PRESS for sale with 600 sheets filter paper, with or without force pump. Used for three months. Cost complete, $185.00. In perfect condition. O. K. for vanilla or other extracts, as well as perfumes, toilet specialties, wines, etc. THE SOYER COMPANY OF AMERICA, Meadville, Pa.

LET US BE YOUR AGENT IN CENTRAL NEW YORK AND VICINITY.—We now have several good accounts in the drug line, and want to add an essential oil account. Strictly commission basis. STANDARD SALES CO., ROCHESTER, N. Y.

EXCELLENT Practical Formulæ of Creams, such as Casein Rolling Massage, etc., offers experienced Cleam Specialist. Willing to show process at your house. Address "Confidential," care J. Kopald, 501 West 172d street, New York City.

BUSINESS OPPORTUNITIES.

WANTED.—Vol. 1 of THE AMERICAN PERFUMER, in numbers or bound. Address, stating price, N. P. Fletcher & Co., Hartford, Conn.

ANYONE selling the perfume and toilet goods, manufacturers desirous of establishing or changing present New York office, communicate with Blue, c/o AMERICAN PERFUMER.

FOR SALE.—Paying business, established six years, manufacturing, complete line of Perfumes, Toilet Waters, Powders and Extracts. Will sacrifice at invoice, about $2,000, which includes trade name, formulae and good will. Reason for selling, sickness. For further particulars, address T. K., c/o this journal.

EXPERIENCED perfume chemist is willing to sell his formulas for perfumes, toilet preparations and flavoring extracts; they include many foreign and domestic specialties. Address CONSULTANT, care of this journal.

FOR SALE.—A brand new water bath steam kettle; capacity, 300 gallons; or will exchange same for a powder sifter and mixer. Address WATER BATH, care of this journal.

SITUATIONS WANTED.

ATTENTION MANUFACTURER.—For line representation on Pacific Coast, write Chas. H. Adler, 227 Lumber Exchange, Portland, Oregon.

PERFUMERY MAN, with thorough knowledge of all its details and best recommendations, will do some work in his spare time. All communications treated confidentially. Write "Synthetics," 247 East 104th street, New York.

GRADUATE analytical chemist, experienced in the manufacture of perfumes and toilet preparations is open for engagement as perfumer, or factory manager; salary moderate to start. Address L. H. C., care of this journal.

CHEMIST, skilled in the manufacture of flavoring extracts, cordials, bitters, cough syrups, etc., seeks a partner with $10,000. Best references. Address Oakland, care of this journal.

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Two years ago I returned to Europe, after several years' experience with American manufacturers of perfume and toilet preparations. I am now again in New York, ready to connect with some first-class concern that wants an A 1 perfumer and soap maker. Address BAIN, care of this journal.

CHEMIST, educated young man with five years' practical experience in up-to-date laboratory work in the line of toilet and tooth preparations of all descriptions, wishes to connect with progressive house. Now employed, wants more responsibilities which he has individuality, intellectual and moral ability to meet. Best of references, security, would invest few hundred dollars. Address Hustler, care of this journal.

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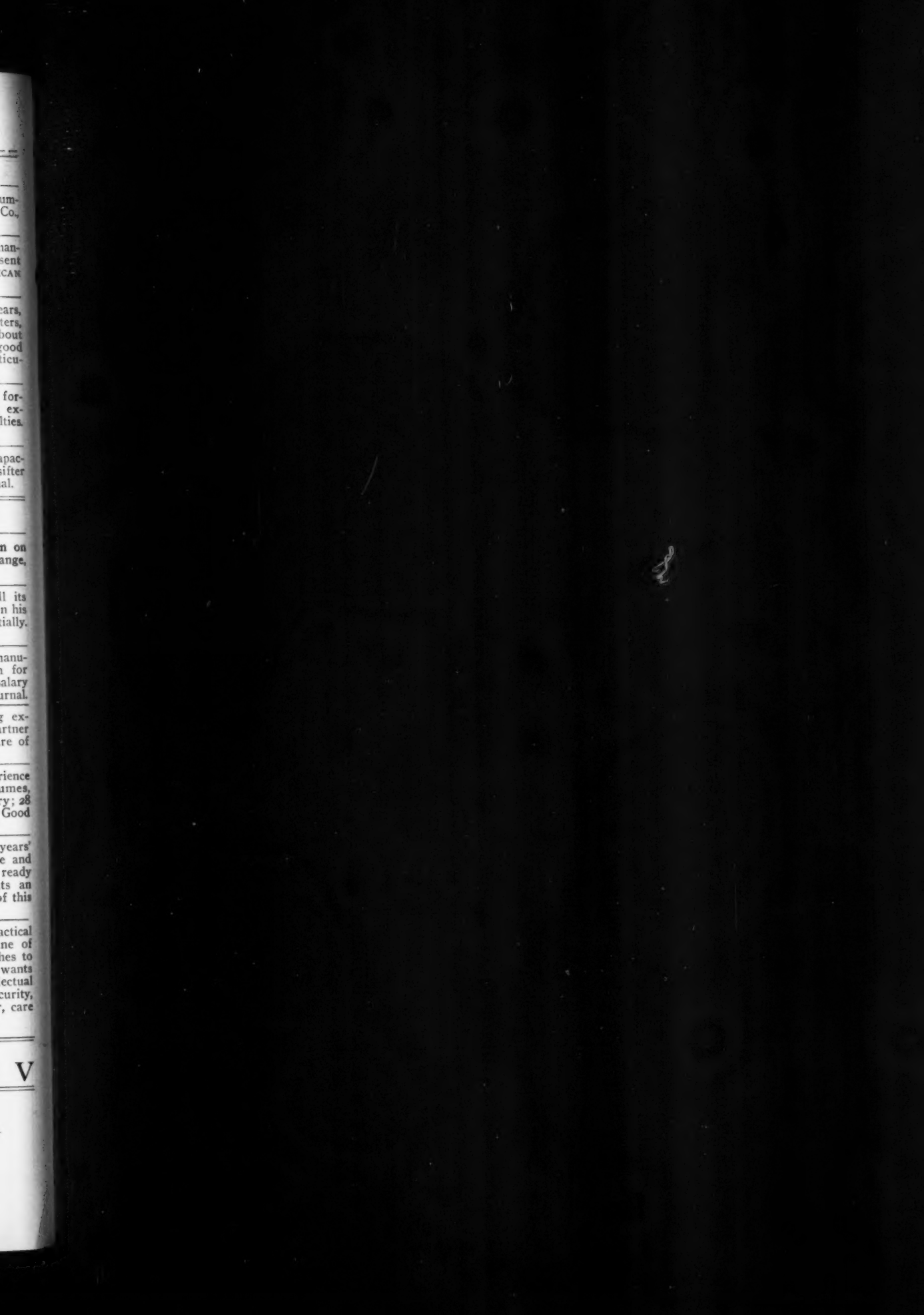
March, 1910--February, 1911

Price, $1.00



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REG. U. S. PAT. OFF.

Standard Perfume and Flavoring Materials

Orientol-Synfleur

Trade-Mark REG. U. S. PAT. OFF.

Damascus Bouquet

One of our most popular materials, of exquisite flowery fragrance and great strength, the basis of many popular proprietary odors, the ideal perfume for talcum powders—equally serviceable for concentrates or for finished perfumes or toilet waters.

While lecturing at Columbia University for some years past, it has been my pleasure to point out, that it is one of the objects of our work in organic synthesis to supply the manufacturer with substances, which will produce new odors. Remembering that the perfume of all flowers is due to many chemical constituents, which often belong to different chemical groups, in no way allied with each other, and remembering that so many of nature's finest flower oils contain the same constituents, only in different proportion, modified by traces of other substances, it becomes possible to make in the laboratory perfume materials which will recall a number of blossoms and which furnish a maximum of perfume value at the lowest cost.

Orientol-Synfleur is a very good example of the facts referred to above. It is to-day used in thousands of Laboratories throughout the world in quantities. It strongly recalls the odors of Honeysuckle, Rose and Jonquil. It has such extreme durability and flowery character, that it forms an ideal material for many perfume purposes.

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pounds $15.00 1-4 pound $4.00 ounces $1.15

Your order will be appreciated.

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Established 1889

Alois von Isakovics, Proprietor

Monticello, New York, U. S. A.

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Synfleur Quality

REG. U. S. PAT. OFF.

Standard Perfume and Flavoring Materials

Benzyl-Benzoate-Synfleur

Trade Mark REG. U. S. PAT. OFF.

Benzyl Benzoate is a constituent of many of Nature's finest flower oils, where it acts both as a fixative and in blending the various substances present in the blossom oil into a harmonious whole. Since its introduction it has made a lasting place for itself and is now used for many different purposes. It is very valuable on account of its solvent power on solids like Musk, Yara, etc. It is much used as a diluent for volatile perfumes, which it will fix. It is used in quantities in the soap industry to make the odor more durable. *Synfleur Quality Benzyl Benzoate* has found extensive application in confectionery and owing to its purity it is used to the exclusion of all other brands by the largest manufacturing interests.

Benzyl Benzoate-Synfleur has always been known as standard. Being absolutely pure it has very little taste or odor, and when for instance, it is used in combination with perfume or flavoring materials, it not only serves to dilute them, but it makes them much more lasting and stable and in confectionery and soaps makes the flavor or odor heat resisting, a very important consideration for the manufacturer.

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1 lb. bottles, any quantity,	$1.25 per pound
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25 lb. cans, any quantity,	$1.10 per pound
500 lb., yearly contracts, in 25 lb. cans,	$1.05 per pound
1000 lb., yearly contracts, in 25 lb. cans,	$1.00 per pound

(Under contract prices, not less than four 25 lb. cans in one shipment.)

Synfleur Scientific Laboratories

Established 1889

Alois von Isakovics, Proprietor

Monticello, New York, U. S. A.

"COLLAPSIBLE TUBES and everything for their use"

Collapsible Tubes ALL SIZES
Plain and Decorated

Your present label reproduced directly on the Tube, or we will prepare new designs and submit for your approval.

Advise us the size tubes you desire and let us send you samples—Our prices will surprise you

Standard Specialty and Tube Company
MANUFACTURERS OF
Collapsible Tubes AND *Metal Specialties*
New Brighton, Pa.

Don't forget that the STANDARD KEY is—"THE KEY-TO-THE-SITUATION" ASK US ABOUT IT

OTTO OF ROSE--GUARANTEED PURE

By V. PETCHEFF & CO., Sopote, Bulgaria
ORIGINAL COPPERS

Messrs. V. Petcheff & Co. have been engaged in the distillation and sale of this oil for many years, and can assure you of a pure oil at a reasonable price. Write us for sample quotation.

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OLIVE OIL

This oil is the first pressing of prime olives grown in the Italian Riviera near Nice, France.

Pressed and shipped to us by the grower, whose guarantee of purity and quality is of great weight.

In casks and cans.

Our prices are "Interesting."

CAILLER & CO., Inc.
16 Cedar Street, New York.

NO. 49½. NO. 51.

BRASS GOODS MFG. CO.
290 Nevins St., Brooklyn, N. Y.

Designers and manufacturers of Sheet Metal Specialties—such as Caps for Talcum and Toothpowder Cans and Jars, in Brass—Polished, Nickelplated, etc.—and other metals.

Send us a description or drawing of what you want; or a sample of what you are using and we will submit quotations.

NO. 50. NO. 1 FANCY.

The Perfumer's Nose

(From an old Arabian proverb)

He who knows not, and knows that he knows not, is simple.
Teach him!

He who knows not, and knows not that he knows not, is a fool.
Shun him!

He who knows, and knows not that he knows, is asleep.
Wake him!

He who knows, and knows that he knows, is wise.
Follow him!

We know,

and know that we know

the real status of Perfume Concentrates. ***We*** may not sell them to you but you will ultimately buy them from ***somebody***. Concentration which gives so many betterments and economies cannot fail to win. Incidentally, these economies will soon be needed to meet a new invasion from France.

¶ Write today for new list, then try sample ounce.

THE CHARLES E. SHOLES COMPANY

Concentrates, Volatile Oils
and Perfumers' Accessories

164 Front St., New York
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Certified AMERICAN ANILINE COLORS

For Confectionery and Food Purposes

¶ We are pleased to announce that we are now prepared to offer the **COAL TAR COLORS** specified in Food Inspection Decision No. 76 and **duly certified** by the **U. S. Department of Agriculture.**

¶ We also offer a full line of colors for soaps, perfumes and toilet preparations

¶ Inquiries for samples, prices and other information will have our prompt attention.

National Aniline & Chemical Co.
100 William Street **New York**

VANILLA BEANS SHOULD BE CHOPPED

NOT MASHED, AND SHOULD BE KEPT COOL ALL THE WHILE.

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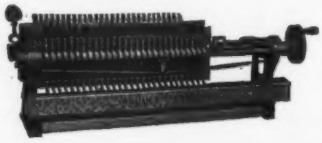

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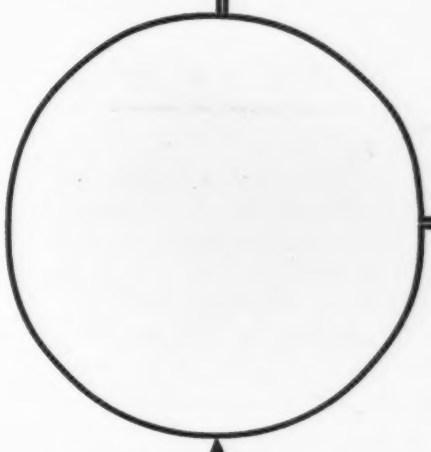

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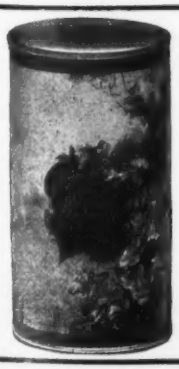

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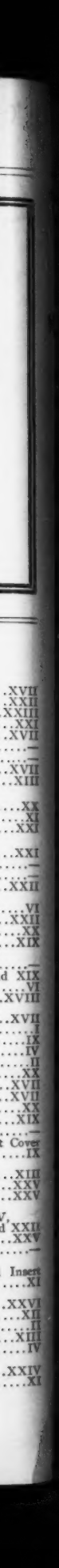
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